CAPITAL COST: DEFINITION OF COST ELEMENTS

APPENDIX 4-A

CAPITAL COST: DEFINITION OF COST ELEMENTS

The capital costs for the proposed HST Alternative have been categorized into discrete cost elements. In general, the capital costs were estimated by determining the appropriate unit costs for the identified cost elements and the cost element quantities from conceptual high-speed train alignment and station option plans prepared for each region. Each cost element is defined below along with the methods and assumptions applied in each case. Many of these elements were reviewed as part of the peer reviews of the Authority's Corridor Evaluation. The unit costs and assumptions were also reviewed and in some cases revised by the regional teams as part of the alignment and station screening performed as part of this program. However, application of these assumptions is consistent with past evaluations and provides appropriate level of detail for the comparison of alignment and station options at this program level.

A. ALIGNMENT COSTS

Track Items

<u>High-Speed Train Track</u>: For steel-wheel-on-steel-rail systems (VHS), this includes ballast, subballast rails, ties, fasteners, etc. No special trackwork (turnouts, sidings, etc.) is included in this cost element. Cost for Special Track work is included as part of the Passenger Station Cost. The track required in the maintenance and service facilities, as well as the at-grade or elevated reinforced concrete substructures/foundation costs, including switches, within maintenance and service facilities are included in the cost of the those facilities.

Track unit costs were applied per unit length of alignment. Unit costs were applied to account for lengths of ballasted track section and direct fixation (slab track). Special trackwork costs were estimated based on Station Configuration.

The "ballasted track" unit cost, applied to most corridors, is \$993,167 per km (\$1,598,347 per mile) of alignment; this is a double-tracked cost. In areas where a single track is added to the existing corridor, this cost would be one half, \$496,583 per km (\$799,174 per mile).

For "direct fixation track", the unit cost is given as \$1,878,243 per km (\$3,022,738 per mile) of alignment. In areas where adding a single track is proposed, this cost would be one half, \$939,121 per km (\$1,511,369 per mile).

Earthwork and Related Items

Included in the detailed categories below are all the earthwork elements and other items related to site development.

<u>Site Preparation</u>: This includes the costs for "clearing and grubbing," which cover the removal of unsuitable surface debris, and removal of vegetation. This also includes the cost of "grading," which is the movement of dirt around the site to prepare the surface for construction. Site

Review of The Final Report on California High-Speed Rail Corridor Evaluation (Phase I), Japan Railway Technical Service September 2000.

Peer Review - Phase I, SNCF International October 2000.





¹ California High-Speed Rail Corridor Evaluation German Peer Review Report (Phase I), DE-Consult Deutsche Eisenbahn-Consulting GmbH December 2000.

preparation also includes work done to make the site usable after the demolition of existing structures.

Unit costs for site preparation were applied to the total area required for earthwork operations along a given segment. The amount of area was based on the earthwork volume calculations.

<u>Earthwork</u>: The general category of "earthwork" is made up of four constituent activities: excavation, embankment, spoil, and borrow. Earthwork incidental to the construction of a structure, such as the excavation for a bridge foundation, is not included here—that cost is a part of the structural estimates.

Unit costs of earthwork were applied to the total volume of earthwork required along a given segment. A digital terrain model (DTM) was used to calculate the earthwork volumes based on the profile of each segment. If a DTM was unavailable an assumption of 1m (3.28 ft) (depth of cut/fill) by 8.3m (27.2 ft) (the width of the cross-sectional track bed) was assumed to be the required cut/fill quantity.

<u>Landscaping/Erosion Control</u>: This includes areas alongside the tracks within the high-speed train right-of-way. Plantings in station areas are included under passenger stations. The landscaping along the route includes the seeding of cut slopes and embankments. Site preparation and landscaping costs would only be applied to areas of new right-of-way for the alignment, including bypass alignments and corridor widening.

<u>Security Fencing</u>: This is a security chain link fence 2.5m (8.2 ft) in height along the right-of-way. All at-grade sections, trench sections, cut and fill sections, tunnel portals, maintenance areas, and any other areas where tracks are accessible to public would be fully fenced. A unit cost for fencing was applied per length of alignment and includes fencing for both side of right-of-way.

<u>Drainage Facilities</u>: This includes culverts and other structures needed for track and cross drainage purposes only, including track underdrains if needed. This does not include the cost of bridges or bridge drainage costs. The cost of drainage facilities was estimated at 5% of the earthwork cost for each segment.

Structures, Tunnels, and Walls

Structures are defined as those appurtenant elements that require structural engineering for system design, and fall into the categories below. Buildings (such as passenger terminals and maintenance facilities) are not included under structures, but are included other elements.

<u>Viaducts and Bridges</u>: This includes costs for prestressed reinforced concrete aerial structures including the bridge, as well as the abutment (for a bridge or viaduct). Cost for that bridge would consist of the excavation for the abutment including all wing walls and transition slabs. The foundation work is included as well as the earthwork needed to construct the foundations. Waterway crossings that were calculated on a per crossing basis are included under bridge costs.

A unit cost was applied per length of aerial structure. Different unit costs were used for "special structures" requiring spans greater than 120 feet (36.6 meters) and for "high structures with heights exceeding 30 feet (9.1 meters). Unit costs for other special or unique structures (i.e., bay crossing) would be addressed on a case by case basis at the subsequent project level analysis.



<u>High-Speed Train Tunnels & Trenches</u>: This includes tunnel boring machine (TBM) and drill and blast (D&B) tunnels constructed beneath the ground level that only require surface occupation (construction access) at the openings of the tunnel. The costs for these tunnels for the high-speed train system include all structural work, full lining and grouting, ventilation systems, special drainage, etc. needed to make the tunnel ready to receive the railroad. This item does not include the track, signaling or traction power systems, which are addressed in separate cost elements. Unit costs are applied per unit length of twin single track tunnel sections for two discrete cases: twin single track tunnels less than six miles in total length, and twin single track tunnels greater than 6 miles in total length. Tunnels greater than six miles in total length require a third access tunnel and additional ventilation/cooling facilities and are significantly more expensive.

<u>Cross-over Chambers</u>: This involves an oversized tunnel segment to accommodate universal cross over tracks at an average spacing of ten miles apart (not to exceed 12 miles) in long tunnel sections.

<u>Seismic Chambers</u>: This involves an oversized tunnel segment (3600' long x 77' wide x 37' high) to accommodate potential track realignment and passage of the train subsequent to a possible future fault rupture event along fault zones where especially large displacement is predicted.

<u>Cut & Cover Double Track Tunnel & Trench</u>: Used in Urban areas where depth of alignment is not sufficient for tunneling methods. The cost accounts for all anticipated labor, equipment, and mobilization costs. Cost includes excavation support, excavation bracing, excavation, structural backfill, and structure cost. Excavation includes removing the material from within the supported area and disposing of that amount of material not used for backfill or unsuitable for use. Structural back-fill includes obtaining sufficient, acceptable material for use, and the placing and compacting of that material. Cost does not include, traffic control, street relocation or utility relocation.

<u>Mechanical & Electrical for Tunnels</u>: This includes mechanical and electrical systems related to tunnel (such as lighting, fans, etc.). This is a cost for twin single track TBM length.

<u>Retaining Walls</u>: These are concrete walls used to support embankments and retained fill along cut sections (retaining walls that are a part of abutments for bridges are included in the bridge costs).

<u>Containment Walls</u>: These are structural concrete walls (including foundations and walls) required to prevent incursion of vehicles from one area to another. Generally, they are included whenever the high-speed train track is at-grade and adjacent to (within 30 feet [9.1 meters]) existing freight and passenger rail operations on dedicated portions of the high-speed train line (or alternative). Containment walls are also required adjacent to existing structures where prescribed by horizontal clearances (Caltrans Bridge and American Railway Engineering and Maintenance-of-Way Association [AREMA] Standards).

Grade Separations

<u>Bridges and Undercrossings</u>: These are highway and railroad overcrossings/undercrossings of the high-speed train system. All crossings with other transportation facilities must be grade-separated from the high-speed train system. The unit costs applied for these grade separations include all of the cost elements necessary to complete the construction of the grade separations, such as earthwork, traffic handling, drainage, etc. The number of existing crossings (roadway and rail) per segment was quantified per USGS planimetric information, field reconnaissance and





other mapping sources according to type (at-grade, under or over) and general land use density category (Dense Urban, Urban, Dense Suburban, Suburban & Undeveloped). Professional judgments were made regarding the proposed crossing type, including the option of closure for minor roadways, based on aerial photography and mapping. Costs were estimated on a percrossing basis using an representative unit cost.

Building Items

Costs for all building such as station facilities are based on the conceptual designs defined in the Engineering Criteria Report.

<u>Intermediate/Terminal Passenger Stations</u>: Different Passenger Station facility unit costs were developed for several station classifications. The different unit costs account for differences in station size, configuration and general location. These costs are assumed to be a rough average, since station costs are expected to vary widely at specific locations.

<u>Passenger Station</u>: This includes cost of passenger platform and inspections platform (for certain stations) and also include tracks and special tracks going through stations plus substructure supporting tracks and platform outside of the main line track envelops. This cost also includes circulation, lighting, security measures and all auxiliary spaces including intermodal connection areas. Spaces are provided within the station for ticket sales, passenger information, station administration, baggage handling, and commercial space for newsstands, small restaurants, etc. Cost does not include cost of traction power, Overhead Catenary System OCS and signal and communication.

<u>Parking</u>: This includes all facility costs associated with the construction of parking structures and at grade parking lots including right of way.

<u>Site Development:</u> This cost involves the paving and landscaping of the site around the passenger station building. Also included in this cost is the provision of street and roadway modifications necessary to provide access to the site. Different site development unit costs are provided for several levels of station size, based on the forecasted ridership.

Rail and Utility Relocation

<u>Railroad Relocation and Removal</u>: This involves the cost of track relocations (temporary or permanent) or track removal required to place high-speed train track into existing rail corridors, including all construction work needed to relocate or remove the railroad, including earthwork, trackwork, etc. A unit cost was applied to the length of alignment requiring relocation or removal.

<u>Utility Relocation</u>: The cost of major utility relocations that must be done before constructing the facilities, such as overhead power lines, pipelines, sewers and fiberoptics and underground ductbanks. Different unit costs were applied to the total length of alignment based on the intensity of land use development along the alignment.

B. RIGHT-OF-WAY ITEMS

This relates to the total cost associated with the purchase of land and/or easement rights for the high-speed train system. This includes relocation assistance and demolition costs. Property values and acquisition costs can range from quite modest in undeveloped areas, to quite significant in areas





where high-value commercial properties near the stations are needed. These costs include those for title searches, appraisals, legal fees, title insurance, surveys, and various other processes.

The basic unit cost estimates assume that a minimum right-of-way width of 50 feet (15.2 meters) would be necessary throughout the length of each segment. Even when the alignment is primarily within existing rail rights-of-way, costs are estimated to account for the purchase and or lease agreements necessary for operation in these corridors. Wider right-of-way sections are necessary in mountainous areas where large cut and fill slopes are required.

Three general parameters were followed: (1) a minimum right-of-way corridor of 50 feet (15.2 meters) has been assumed in congested corridors; (2) a 100-foot (30.4-meter) corridor has been assumed in less developed areas to allow for drainage, future expansion and maintenance needs; and (3) a wider corridor was used in variable terrain to allow for cut and fill slopes, based on computerized terrain modeling of the alignment options.

C. ENVIRONMENTAL IMPACT MITIGATION

This cost is total cost associated with potential mitigation of environmental impacts such as impacts to wetlands, parkland, biological resources, and wildlife habitat. Noise mitigation with sound walls and right-of-way impact and relocation mitigation are estimated separately as defined above.

The total cost of environmental mitigation was estimated to be 3% of the line construction costs (i.e., track, earthwork, structures, etc.) for each segment, based on other recently implemented transportation corridors in California. This factor is based on the average to estimate a total cost of mitigation.

D. SYSTEM ELEMENTS

Signaling and Communications Items

<u>Signaling</u>: These costs cover the cost of wayside, on-board and central control software and hardware for the overall signaling system. The unit costs are applied per length of track. The VHS technologies operate either on the basis of moving block technology with automatic train protection (ATP) or automatic train control (ATC) and automatic train operation (ATO).

<u>Communications</u>: This includes a high capacity fiber optic backbone with full redundancy, which is key for the operation of the Supervisory Control and Data Acquisition (SCADA) and reliable ATC systems. The communication system would be used for operations; maintenance and emergencies; phone and fax capabilities (enroute); closed circuit television; public information systems; public address systems; and other monitoring and detection devices needed for a safe and efficient operating system. The unit costs are applied per length of track.

<u>Wayside Protection Systems</u>: This includes systems/equipment to monitor and/or detect obstacles that may be placed or fall onto the track; intrusion; flooding; wind; seismic activity and equipment failures (broken rails, hot axles, dragging equipment, etc.). The unit costs are applied per length of track.

Electrification Items

<u>Traction Power Supply</u>: This cost is the entire cost of the substations, including site preparation; foundations; cable trenches; fencing; electrical equipment, etc. The unit costs are applied per unit length of track. It does not include the cost of transmission lines from the local utility source





to the substations; those are included in the energy costs, a part of the operating and maintenance costs

<u>Traction Power Distribution</u>: This cost includes the catenary poles and foundations; the catenary wires and supports; tensioning devices; power feeders and returns; transformers and other appurtenances. The unit costs are applied per unit length of track.

E. VEHICLE COSTS

This includes costs for trainsets including an inventory of small parts estimated to be needed for regular maintenance. The costs are based on an estimated fleet size to accommodate the high-end ridership forecasts according to the conceptual operating plan, including estimated spare/out of service requirements. This unit cost includes a 15% contingency to account for uncertainties related to the variance of cost between manufacturers, burn-in and testing and other economic uncertainties at this stage of estimation.

The unit cost estimates for each train set are based upon published manufacturers' documentation on recent sales of in-service trainsets at the time of the preparation of this document, as well as telephone inquiries with representatives of the manufacturer. Five manufacturers were considered to develop the unit costs, which are representative of the different manufacturers cost information.

F. SUPPORT FACILITY COSTS

Costs for all support facilities are based on the conceptual designs defined in the Engineering Criteria Report. The support facilities include the Train Storage, Service and Inspection, and Light Maintenance Facilities defined near the terminal stations at Sacramento, the Bay Area (at Los Banos due to land use constraints in the Bay Area), and San Diego. They also include the Main Repair and Maintenance Facility to be located in the mid-portion of the system (Central Valley).

The costs include all costs associated with support maintenance facilities, including right of way and facilities. In addition to civil work and structural work, the unit cost includes trackwork, traction power, OCS and signal and communication and also maintenance equipment costs.

The facilities sizing was based on the greatest potential need (fleet size) associated with various operating scenarios. These operating scenarios are based on the Business Plan Sensitivity Analysis ridership forecasts, which represent the highest reasonable forecasted ridership, and the conceptual service plan from the Corridor Evaluation. For the purposes of defining these general facilities, we have assumed the following trainset storage requirements: Sacramento (9 trains), San Francisco/Oakland (15 trains), San Diego (21 trains), Los Angeles (4 trains), Fresno and Bakersfield (2 trains).

G. PROGRAM IMPLEMENTATION COSTS

Costs for these elements are computed as a percentage of the total of construction and procurement costs. The percentages are intended to represent the average overall cost of these implementation items, based on implementation of rail transit and other related improvement projects throughout the state. The percentages are predicated on a Design-Build (DB) and Design-Build-Operate-and-Maintain (DBOM) procurement approach and would be significantly higher using a traditional procurement approach. These costs would be divided between the owner and the contractor in this procurement approach and are noted accordingly. These costs should be included in the cost estimates for overall consistency in the order of magnitude.



Preliminary Engineering and Environmental Review

These are preliminary engineering design costs to approximately a 35% level. This would includes preliminary geotechnical investigations; land surveying and mapping; engineering; architecture; landscape architecture; traffic engineering; right-of-way engineering and preparation of preliminary plans and analyses in all necessary technical disciplines; and various other technical studies and support of the draft environmental document. The environmental review would entail all studies and analyses necessary to complete further federal and state required environmental documents. (Owner–2.5%)

Program & Design Management

Costs for the overall management and administration of the project. Included were the Program Manager's office, contract management and administration, project control including both cost and schedule, general administration, computer support, quality assurance, configuration management, system safety, publications, public relations, support of the bidding process, agency liaison, community information and involvement and legal support. (Owner–5.0%)

Final Design

Costs for final design and preparation of construction and procurement documents for all facilities and systems. This would include geotechnical investigations; land surveying and mapping; engineering; architecture; landscape architecture; traffic engineering; right-of-way engineering; preparation of plans and specifications in all necessary technical disciplines; and various other technical studies and support of the final design process. Design support during construction, including shop drawing review is also included in this item. (Contractor–5.0%)

Construction & Procurement Management

Costs for all management of construction and procurement work after contracts are awarded to contractors or suppliers. This would include on-site inspection in factory and field, quality control, contract administration and acceptance inspection. (Owner–1.0%; Contractor–4.0%)

Agency Costs

The costs of maintaining the owner's organization (or operator of the system) during the entire program, whether that owner is a franchisee or a government agency. (Owner–1.0%)

Force Account Costs

Costs for the services of other organizations or agencies of local, state or federal government that may be required to support the project. Work within railroad rights-of-way may be on force account with the appropriate railroad. There may be unforeseen costs as a result of moving the railroad to allow for high-speed trains. (Owner–1.0%)

Risk Management

The costs of owner (or operator of the system)-supplied insurance or any other allowances decided to be applied for the management of risk to the owner. (Owner–6.0%)





Testing & Pre-Revenue Operations

The costs of pre-revenue testing, acceptance testing, safety certification and training related to start-up of the system for revenue service. These costs would be included in the DBOM contract. These costs are not included as part of the program implementation costs at this level of evaluation.

H. CONTINGENCIES

A contingency is added as a percentage of overall project costs—based on past experience for projects in early stages of definition. Contingencies should not be considered as potential savings. They are an allowance added to a basic estimate to account for items and conditions that cannot be assessed at the time of the estimate. The contingency amount is expected to be reduced as the project matures. The contingency is estimated at 25% of the total of construction costs.



CAPITAL COST: UNIT COST TABLE

Appendix 4-B HIGH-SPEED TRAIN UNIT COST

			UNIT PRICE
	COST ELEMENTS	UNIT	(YR NOV-2006)
Align	ment Cost		
Track	Items		
	Double Track Section - Total	km	
	Double Track Section - At-Grade	km	\$993,167
	Double Track Section - On Structure	km	\$1,878,243
	Double Track Section - In Tunnel or Subway	km	\$1,878,243
4	Double Track Section - In Trench	km	\$1,878,243
	Single Track Section - Total	km	
	Single Track Section - At Grade	km	\$496,583
	Single Track Section - On Structure	km	\$939,121
	Single Track Sections - In Tunnel or Subway	km	\$939,121
	Single Track Section - In Trench	km	\$939,121
	Freight Double Track - At-Grade	km	\$993,167
	Freight Single Track - At-Grade	km	\$496,583
	work Items		T
	Site Preparation - Undeveloped	Hectares	\$12,081
	Total Cut	m3	\$9
	Total Fill	m3	\$9
	Borrow	m3	\$13
	Spoil	m3	\$0
	Landscape/Erosion Control	Hectares	\$8,075
	Security Fencing (Both Sides of R/W)	km	\$101,733
	Special Drainage Facilities	of Earthwork C	
	tures, Tunnels, Walls	<u> </u>	
	Standard Structure	km	\$13,733,933
	High Structure	km	\$16,480,720
	Long Span Structure	km	\$37,577,568
	Waterway Crossing - Primary	km	\$28,876,734
	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226
	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254
	Twin Single Track TBM (<6 Miles)	km	\$55,464,535
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643
	Double Track Drill & Blast	km	\$83,740,573
	Double Track Mined (Soft Soil)	km	\$96,247,282
	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899
	Crossovers Cut & Cover Double Track Tunnel	ea	\$94,803,899
	Trench Short	km km	\$48,123,641 \$49,668,587
	Trench Long	km	\$49,668,587 \$39,272,836
	Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362
	Retaining Walls	km	\$1,931,362 \$4,399,945
	Containment Walls	km	\$4,599,945 \$1,500,559
		km	\$1,500,559
	Single Track Cut and Cover Subway	KIII	\$30,077,270
	Street Overcrossing HSR - (Urban)	ea	\$17,167,417
	Street Overcrossing HSR - (Suburban)	ea	\$6,485,469
	Street Overcrossing HSR - (Undeveloped)	ea	\$1,093,628
	Street Undercrossing HSR - (Urban)	ea	\$17,930,413
	Street Undercrossing HSR - (Gibari)	ea	\$6,866,967
	Street Undercrossing HSR - (Undeveloped)	ea	\$1,157,211
	Street Bridging HSR Trench	ea	Ψ1,137,211
			ī

Appendix 4-B HIGH-SPEED TRAIN UNIT COST

COST ELEMENTS	UNIT	UNIT PRICE (YR NOV-2006)
Alignment Cost	UNIT	(TK NOV-2000)
Rail and Utility Relocation		
1 Single Track Relocation (Temporary)	km	\$1,271,661
2 Single Track Relocation (Permanent)	km	\$1,271,661
3 Single Track Removal	km	\$63,372
4 Major Utility Relocations - Dense Urban	km	\$890,162
5 Major Utility Relocations - Urban	km	\$680,338
6 Major Utility Relocations - Dense Suburban	km	\$476,873
7 Major Utility Relocations - Suburban	km	\$273,407
8 Major Utility Relocations - Undeveloped	km	\$13,988
Right of Way Items		\$25/500
1 Right-of-Way Required for Each Segment		
Dense Urban	Hectares	\$4,106,412
Urban	Hectares	\$2,737,608
Dense Suburban	Hectares	\$1,368,804
Suburban	Hectares	\$479,081
Undeveloped	Hectares	\$342,201
Environmental Mitigation		
Environmental Mitigation	3% of Line Cost	
System Elements		•
1 Signaling (ATC)	km	\$845,654
2 Communications (w/Fiber Optic Backbone)	km	\$699,413
3 Wayside Protection System	km	\$67,144
Electrification Items		
1 Traction Power Supply	km	\$432,365
2 Traction Power Distribution	km	\$806,233
Program Implementation Costs (PER SCREENING)		
Program Implementation Costs	25.5% of Tot	al Cost and Procurement
Contingencies (PER SCREENING)		
Contingencies	25% of To	tal Construction Cost
Total Construction		
Total Construction and Right of Way (Includes Environmental Mitiga	ition)	
Grand Total		

APPENDIX 4-C

CAPITAL COST: HST ALIGNMENT ALTERNATIVES (SUMMARY AND SEGMENT BREAKDOWN)

September Sept							Segment/Station
San Francisco Do San Jose: Californ	Alignment	Option by Region and Segment	Segment I	_ength	Avg C	cost	•
San Francisco Di Dumbarton			km	miles	\$/km	\$/mile	
Section Common			1		·		
Common							
Section Sect							
Dumbarton to San Jose							
Calman	Caltrain 4		0.75	0.47			
Californ Description Des	Dumbarton to S	an Jose	34.40	21.38	\$39,358,880	\$63,341,977	\$1,353,945,475
Section Sect		,					
College Coll							
Station Options							
Processor Found Center (Ferman Option)		Santa Clara to Diridon Station	5.00	3.11	\$92,535,828	\$148,921,979	\$462,679,139
Binst Street City Celement (plane)	Station Options	Translagy Transit Contar (Terminal Option)	-			1	¢704 242 410
Bits and Company							
Decision of the Colorana							
West Outland to Niles Junction							
West Oakland to Miles Junction 44.64 27.74 387,744.76 973,282,999 51,995,171,000,000 100,000,000 100		Palo Alto (Caltrain)					\$67,516,558
West Open Description De	Oakland to San Jose: Niles	/1-880					
Section 19	West Oakland to	Niles Junction	44.64	27.74	\$35,744,748	\$57,525,595	\$1,595,717,028
Name 490 A	Niles/I-880 1A						
Niled 480 A.							
### ### ### ### ### ### ### ### ### ##							
Security							
Miles Description Descri							
Need-680 A							
Nimes June June Copy (BAPT 10 Nimes June	Niles/I-880 3A						
Nicel 480 65 Nice Wy (C) is UWarn Springs in Trimbe No. 1 (1997) 1997 (1997) 1	Niles/I-880 4A	Union City (BART) to Niles Junction		14.57			
Nieub-1980 56 Nieu Wyw (City) o Varmi Spring b Nieu Wyw (City) o Varmi Spring b Nieu Wyw (City) o Varmi Spring b Nieu Spring b Trinsfell Rd. Option (City) (City) of Strong Spring b Nieu Spring b Trinsfell Rd. Option (City) (City) of Strong Spring b Nieu Spring b Trinsfell Rd. Option (City) (City) of Strong Spring Sp					, , ,		
Name							
Nileot-1980 78		, , , , ,					
Calmann Santa Clara to Director Station 5.00 3.11 592:555.8226 3148 (27.179 5424.279.39 Niles Junction to Ran Jose via Tribible (Turnel) 29.95 16.61 565,132.00 5148,173.00 5148,19.990 31900,000.580 1808,400.00 1809,000.580 1809,000.580 1808,400.00 1809,000.580 1809,							
Niles Junction to San Jose via Trimble (Tumel) 29:55 18:61 565,132,040 5104,819,890 31,909,00.589 Niles 4800 55 Niles Wye (S) 3.66 227 545,774 573,790 573,900,00.589 Niles 4800 56 Niles Wye (S) 0.366 227 545,774 573,790 573,900,00.589 Niles 4800 56 Niles Wye (S) 0.366 227 14:6 521,607,161 520,802,555 514,044,170 Niles 4800 56 Warm Springs to Trimble Rd 2.23 14:6 521,419,581 314,704,777 340,927,514 Niles 4800 76 Trimble Rd Cytonor (Tumel) 10:22 6:54 564,721,415 3104,190,212 540,099,732 Littlinia 8 San Jose Val - 1880 26:10 16:22 548,552,003 578,138,548 31,202,224,412 Niles Junction to San Jose Val - 1880 26:10 16:22 548,552,003 578,138,548 31,202,224,412 Niles Junction to San Jose Val - 1880 26:10 16:22 548,552,003 578,138,548 31,202,224,412 Niles Junction to San Jose Val - 1880 26:20 279, 345,776,779 573,506,600 31,000,003 Niles Wye (S) Vilam Springs 26:20 31,000,003 32,000,003 Niles Wye (S) Vilam Springs 26:20 31,000,003 32,000,003 Niles Wye (S) Vilam Springs 26:20 31,000,003 32,000,003 Niles Junction to Alternort 11:7 72:50 336,41,009 32,000,003 Niles Junction to Alternort 13:13 8:16 555,263,716 589,983,229 572,523,144 Niles Junction to Miles Wye (S) 4:26 4:35,100 350,400,003 Niles Wye (S) Vilam Springs 8:20 5:22 364,964,624 3104,550,525 3578,76,660 Station Options 27:20 27:20 27:20 27:20 27:20 27:20 Niles Charlestor Niles Wye (S) 4:26 4:30,300 35,000,003 37:20 37:20,300 37:20							
Niles Junction to Niles Viye (§) 0.000 3.56 227 \$45,726,749 \$37,590,009 \$3168,002455 \$314,004,177 \$459,005,005 \$314,004,177 \$459,005,005 \$314,004,177 \$459,005,005 \$314,004,177 \$459,005,005 \$314,004,177 \$459,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005,005 \$314,004,007 \$450,005 \$314,005,005							
New Sering to Trimble Rd 2.33	Niles/I-880 5A						
Niles Firmible Rd Option (Turnel) 10.52 6.54 564.724.145 \$104.150.021 586.09.093.725	Niles/I-880 5B	Niles Wye (S) to Warm Springs	8.45	5.25	\$16,691,618	\$26,862,555	\$141,044,170
Selfrace							
Niles Junction to San Jose via I-880							
Nies Junction to Nies Wye (S) 3.65 2.27 345,726,749 373,590,069 310,809,2354							
Niles Nile							
Niles Nile							
Niles 1-880 - Tremble Ret to Diridon 11-67 7.25 \$39.421.689 \$63.443.059 \$400.011.694 Niles Junction to Alfamont 13.13 8.16 \$55.263.716 \$58.98.33.39 \$727.521.501 Niles Junction to Alfamont 13.13 8.16 \$55.263.716 \$58.98.33.39 \$727.521.501 Niles Junction to Niles Wye (S) \$4.25 2.44 \$35.018.010 \$56.356.037 \$146.986.648 Niles Wye (S) to Warm Springs 8.88 5.52 54.4964.684 \$104.550.555 \$576.766.665 Station Options West Oakland/7th Sirreet	Niles/I-880 6						
Niles Dumbarton X Niles Muncion to Niles Wye (S) to Warm Springs 8.88 5.52 564,964,684 5104,550,525 \$767,956,468 5104,550,550,550,550,550,550,550,550,550,5	Niles/I-880 7A		11.67	7.25		\$63,443,059	\$460,011,694
Niles Organization NS Niles Wye (S) to Warm Springs 8.88 5.52 \$64,964,684 \$104,550,525 \$576,756,466 \$514,107,055 \$1215 StreetCity Center \$611,179,055 \$1215 StreetCity Center \$611,179,055 \$1215 StreetCity Center \$611,179,055 \$1215 StreetCity Center \$611,179,055 \$10,1793,653 \$10,1793,654 \$10,1793,65	Niles Junction t	o Altamont	13.13	8.16	\$55,263,716	\$88,938,329	\$725,723,114
West Oakland/7th Street Set11,197,055	Niles/Dumbarton XN						
West Oakland/Th Street		Niles Wye (S) to Warm Springs	8.88	5.52	\$64,964,684	\$104,550,525	\$576,756,466
12h Street/City Center	Station Options				1		
Collseum/Airport Se1,735,852 Union City (Bart) Se9,855,070 Se9,855,070 Union City (Shinn) Se9,855,070 Se7,861 Se7,865,871 Se7,865,871 Se7,865,871 Se7,865,871 Se7,860 Se7,866 Se							
Union City (Bart) \$69,853,070 Union City (Shim) \$310,150,400 \$310,150,400 \$156,875,180 \$310,150,400 \$156,875,180 \$310,150,400 \$156,875,180 \$310,150,400 \$156,875,180 \$156,875,1							
Union City (Shinn) \$310,150,400 \$310,150,400 \$310,150,400 \$310,150,400 \$315,875,180							
San Jose to Central Valley Pacheco Pass 92.50 57.48 \$38,800,727 \$62,443,717 \$3,589,067,255							
Pacheco P2.50 57.48 \$38,800,727 \$62,443,717 \$3,589,067,255		Fremont (Warm Springs)					
Pacheco P2.50 57.48 \$38,800,727 \$62,443,717 \$3,589,067,255	San Jose to Central Valley:	Pacheco Pass					
Pacheco 2 Morgan Hill to Gilroy 16.00 9.94 \$23,730,117 \$38,189,921 \$379,681,864 Pacheco 3 Gilroy to San Luis Reservoir 44.00 27.34 \$57,896,982 \$93,176,161 \$2,547,467,226 \$Pacheco 4 \$4.00 27.34 \$57,896,982 \$93,176,161 \$2,547,467,226 \$Pacheco 4 San Luis Reservoir to Valley Floor 15.45 9,60 \$27,554,846 \$44,345,226 \$425,722,369 \$Pacheco 4 San Luis Reservoir to Valley Floor 15.45 9,60 \$27,554,846 \$44,345,226 \$425,722,369 \$Pacheco 4 Henry Miller UP North Wye to UP South Wye 58.05 36.07 \$10,870,134 \$17,493,785 \$630,967,784 \$Pacheco 4 Henry Miller UP North Wye to UP South Wye 15.09 \$11,200,428 \$18,025,342 \$91,720,307 \$Pacheco 4 \$9,960 \$11,845,555 \$19,063,573 \$133,262,493 \$Pacheco 4 \$9,960 \$11,845,555 \$19,063,573 \$133,295,030,861 \$Pacheco 4 \$9,960 \$11,845,555 \$19,063,573 \$133,295,030,861 \$Pacheco 4 \$9,960 \$11,845,865 \$19,032,711 \$79,200,005 \$Pacheco 4 \$9,960 \$11,200,428 \$1	Pacheco						
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Henry Miller (UPRR Connection) 100.89 62.69 \$13,489,349 \$21,709,003 \$1,360,872,958							
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HM-1 Western Valley to henry Miller UP Wye 58.05 36.07 \$10,870,134 \$17,493,785 \$630,967,784 HM-2 Henry Miller UP North Wye to UP South Wye 8.19 5.09 \$11,200.428 \$18,025,342 \$91,720,307 HM/3 Henry Miller UP South Wye to BNSF Wyes 4.62 2.87 \$11,920,369 \$191,813,975 \$55,012,505 HM/BN-XN Henry Miller UP South to BNSF Wyes 8.70 5.40 \$13,137,656 \$21,143,007 \$114,245,054 HM/BN-XS Henry Miller Wye South to BNSF 9,70 6.03 \$7,975,551 \$12,835,405 \$77,362,843 \$10,903,904 \$10,903,904 \$10,903,904 \$10,903,904 \$10,903,904 \$10,903,904 \$10,903,904 \$10,903,904 \$10,903,904 \$10,903,904 \$10,904 \$1							
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GEA-UPRR XS GEA Atwater Wye South to Merced UP 11.10 6.90 \$27,186,344 \$43,752,180 \$301,768,423 Station Options San Jose (Diridon) \$185,051,790 \$185,051,790 Morgan Hill (Caltrain) \$284,985,295	GEA-BNSF XN						
Station Options San Jose (Diridon) \$185,051,790 Morgan Hill (Caltrain) \$284,985,295	GEA-UPRR XS						
San Jose (Diridon) \$185,051,790 Morgan Hill (Caltrain) \$284,985,295	Station Options						
Morgan Hill (Caltrain) \$284,985,295		San Jose (Diridon)					\$185,051,790
Gilroy (Caltrain) \$148,256,045							
		Gilroy (Caltrain)					\$148,256,045

Alignme	ent Option by Region and Segment	Segment I	_ength	Avg (Cost	Segment/Station Costs
		km	miles	\$/km	\$/mile	
East Bay to Central Valle I-680/580/UPF		49.43	30.71	\$48,015,427	\$77,273,339	\$2,373,258,499
UPRR-2A/2B	Niles Canyon to Sunol	6.27	3.90	\$99,895,152	\$160,765,663	\$626,342,602
I-680/580/UPRR-1	Sunol to Dublin/Pleasanton BART	11.72	7.28	\$43,125,032	\$69,403,012	\$505,382,254
I-680/580/UPRR-2	Dublin/Pleasanton BART to El Charo Road	4.09	2.54	\$37,877,905	\$60,958,579	\$154,996,386
I-680/580/UPRR-3 I-680/580/UPRR-4	El Charo Road to Livermore (I-580)	5.32	3.31	\$37,708,288	\$60,685,606	\$200,608,090
I-680/580/UPRR-5	Livermore (I-580) to Greenville Greenville to Altamont Pass	8.11 8.66	5.04 5.38	\$36,480,045 \$61,995,084	\$58,708,941 \$99,771,416	\$295,853,163 \$536,567,450
UPRR-9	Altamont Pass to County Line	5.26	3.27	\$10,170,795	\$16,368,308	\$53,508,554
I-580/UPRR	ritation rass to obaity and	43.96	27.32	\$45,493,874	\$73,215,293	\$1,999,973,946
UPRR-2A/2B	Niles Canyon to Sunol	6.27	3.90	\$99,895,152	\$160,765,663	\$626,342,602
UPRR-3	Sunol to Pleasanton	3.30	2.05	\$44,840,606	\$72,163,960	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,405,269	\$42,495,161	\$68,510,055
Pleasanton X	UPRR to I-580 Connector	4.45	2.77	\$15,878,585	\$25,554,105	\$70,707,337
I-680/580/UPRR-3	El Charo Road to Livermore (I-580)	5.32	3.31	\$37,708,288	\$60,685,606	\$200,608,090
I-680/580/UPRR-4	Livermore (I-580) to Greenville	8.11	5.04	\$36,480,045	\$58,708,941	\$295,853,163
I-680/580/UPRR-5 UPRR-9	Greenville to Altamont Pass Altamont Pass to County Line	8.66 5.26	5.38 3.27	\$61,995,084 \$10,170,795	\$99,771,416 \$16,368,308	\$536,567,450 \$53,508,554
Patterson Pa		41.19	25.60	\$41,847,512	\$67,347,043	\$1,723,804,068
UPRR-2A/2B	Niles Canyon to Sunol	6.27	3.90	\$99,895,152	\$160,765,663	\$626,342,600
UPRR-3	Sunol to Pleasanton	3.30	2.05	\$44,840,606	\$72,163,960	\$147,876,699
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,405,269	\$42,495,161	\$68,510,055
UPRR-5	El Charo to Livermore	6.41	3.98	\$7,350,429	\$11,829,368	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.55	2.21	\$20,957,133	\$33,727,236	\$74,412,071
Patterson Pass	Patterson Pass	19.07	11.85	\$39,822,791	\$64,088,570	\$759,579,915
UPRR		41.62	25.86	\$40,377,726	\$64,981,651	\$1,680,501,168
UPRR-2A/2B	Niles Canyon to Sunol	6.27	3.90	\$99,895,152	\$160,765,663	\$626,342,602
UPRR-3	Sunol to Pleasanton	3.30	2.05	\$44,840,606	\$72,163,960	\$147,876,695
UPRR-4 UPRR-5	Pleasanton to El Charo El Charo to Livermore	2.59 6.41	1.61 3.98	\$26,405,269 \$7,350,429	\$42,495,161 \$11,829,368	\$68,510,055 \$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.55	2.21	\$20,957,133	\$33,727,236	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.99	1.86	\$18,265,628	\$29,395,678	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.25	6.99	\$54,058,154	\$86,998,166	\$608,154,234
UPRR-9	Altamont Pass to County Line	5.26	3.27	\$10,170,795	\$16,368,308	\$53,508,554
Tracy Downto	own (BNSF Connection)	86.22	53.58	\$17,787,134	\$28,625,617	\$1,533,677,808
UPRR-10	County Line to Tracy Downtown	12.84	7.98	\$23,802,574	\$38,306,529	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.34	4.56	\$15,988,833	\$25,731,533	\$117,358,035
UPRR-12	I-205 to S. UPPRR	8.31	5.16	\$14,955,715	\$24,068,890	\$124,281,993
UPRR-13 MC-1	I-205 to Lathrop - Northern Southwestern Manteca	13.14 1.46	8.16 0.91	\$18,113,361 \$27,687,372	\$29,150,629 \$44,558,506	\$238,009,562 \$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-5	Northern Escaton Wye to BNSF	4.30	2.67	\$23,422,722	\$37,695,217	\$100,717,704
MC-6	Soutrn Escaton Wye to BNSF (part 1)	22.84	14.19	\$8,972,327	\$14,439,561	\$204,945,893
MC-7	Soutrn Escaton Wye to BNSF (part 2)	14.17	8.80	\$25,164,616	\$40,498,524	\$356,507,116
Tracy ACE St	tation (BNSF Connection)	86.87	53.98	\$18,877,113	\$30,379,768	\$1,639,835,922
S UPRR-1	County Line to South of Tracy	2.09	1.30	\$13,128,290	\$21,127,935	\$27,398,741
S UPRR-2	South of Tracy to Tracy ACE Station	15.51	9.64	\$25,499,265	\$41,037,089	\$395,493,599
S UPRR-3	Tracy ACE Station to I-205	7.14	4.44	\$11,856,678 \$15,269,787	\$19,081,474	\$84,656,684
S UPRR-4 S UPRR-5	I-205 to Southeast of Manteca I-205 to Lathrop - Southern	6.46	4.02 6.88	\$15,269,787	\$24,574,340 \$41,441,946	\$98,673,364 \$285,138,957
MC-1	Southwestern Manteca	1.46	0.88	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-5	Northern Escaton Wye to BNSF	4.30	2.67	\$23,422,722	\$37,695,217	\$100,717,704
MC-6	Soutrn Escaton Wye to BNSF (part 1)	22.84	14.19	\$8,972,327	\$14,439,561	\$204,945,893
MC-7	Soutrn Escaton Wye to BNSF (part 2)	14.17	8.80	\$25,164,616	\$40,498,524	\$356,507,116
	tation (UPRR Connection)	47.93	29.78	\$29,956,447	\$48,210,228	\$1,435,902,370
S UPRR-1	County Line to South of Tracy	2.09	1.30	\$13,128,290	\$21,127,935	\$27,398,741
S UPRR-2	South of Tracy to Tracy ACE Station	15.51	9.64	\$25,499,265	\$41,037,089	\$395,493,599
S UPRR-3 S UPRR-4	Tracy ACE Station to I-205 I-205 to Southeast of Manteca	7.14 6.46	4.44	\$11,856,678 \$15,269,787	\$19,081,474 \$24,574,340	\$84,656,684 \$98,673,364
S UPRR-4 MC-1	Southwestern Manteca	1.46	0.91	\$15,269,787 \$27,687,372	\$24,574,340 \$44,558,506	\$98,673,364 \$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-3	Eastern Manteca UPRR South to BNSF	9.17	5.70	\$74,962,364	\$120,640,230	\$687,254,951
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
Tracy Downto	own (UPRR Connection)	58.36	36.26	\$27,670,588	\$44,531,495	\$1,614,883,212
UPRR-10	County Line to Tracy Downtown	12.84	7.98	\$23,802,574	\$38,306,529	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.34	4.56	\$15,988,833	\$25,731,533	\$117,358,035
UPRR-12	I-205 to S. UPPRR	8.31	5.16	\$14,955,715	\$24,068,890	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1 MC-2	Southwestern Manteca Southeastern Manteca	1.46 1.83	0.91 1.14	\$27,687,372 \$25,102,875	\$44,558,506 \$40,399,161	\$40,340,501 \$45,963,364
MC-3	Eastern Manteca UPRR South to BNSF	9.17	5.70	\$25,102,875 \$74,962,364	\$40,399,161 \$120,640,230	\$45,963,364 \$687,254,951
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$120,640,230	\$56,121,166
East Bay Con		13.13	8.16	\$55,263,716	\$88,938,329	\$725,723,114
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)	8.88	5.52	\$64,964,684	\$104,550,525	\$576,756,466
Station Options						
	Pleasanton (I-680/Bernal Rd)					\$72,639,578
	Pleasanton (BART)					\$316,675,328
	Livermore (Downtown-At Grade)					\$73,297,263
	Livermore (Downtown-Aerial)					\$314,667,658
	Livermore (I-580)					\$151,769,468
 	Livermore (Greenville Road/UPRR) Livermore (Greenville Road/I-580)					\$72,639,578 \$160,180,913
	Tracy (Downtown)					\$160,180,913
	Tracy (ACE)					\$314,667,658
						+=:.,=57,000

		3	engtn	Alignment Option by Region and Segment Segment Length Avg Cost		Segment/Station Costs	
Con Francisco Bou Oronsia		km	miles	\$/km	\$/mile		
San Francisco Bay Crossings Trans Bay Cross	ing - Transbay Terminal	11.71	7.28	\$338,317,199	\$544,468,754	\$3,961,694,398	
	Transbay Transit Center tube to SF Bay	2.48	1.54	\$252,855,279	\$406,931,126	\$627,081,091	
TB-3	SF Bay to West Oakland	9.23	5.74	\$361,279,882	\$581,423,610	\$3,334,613,307	
Trans Bay Cross	ing - 4th & King 4th/Townsend tube to SF Bay	11.06 1.83	6.87 1.14	\$343,054,247 \$251,129,323	\$552,092,294 \$404,153,470	\$3,794,179,969 \$459,566,662	
	SF Bay to West Oakland	9.23	5.74	\$251,129,323	\$581,423,610	\$3,334,613,307	
Dumbarton (High		30.67	19.06	\$63,990,228	\$102,982,290	\$1,962,452,322	
	Dumbarton Wye North to Caltrain	2.20	1.37	\$73,361,640	\$118,064,116	\$161,395,609	
	Dumbarton Wye South to Caltrain	0.96	0.60	\$13,082,432	\$21,054,134	\$12,559,135	
Dumbarton-1 (High Bridge) Dumbarton-2 (High Bridge)	Dumbarton Bay Crossing to Don Edwards Dumbarton Bay Crossing to Don Edwards	10.01 13.00	6.22 8.08	\$88,615,763 \$60,644,584	\$142,613,246 \$97,597,998	\$886,866,552 \$788,379,595	
	Shinn to Niles Canyon	4.50	2.80	\$25,166,985	\$40,502,336	\$113,251,431	
Dumbarton (Low		32.21	20.01	\$47,523,861	\$76,482,241	\$1,530,743,565	
Dumbarton-XN	Dumbarton Wye North to Caltrain	2.20	1.37	\$73,361,640	\$118,064,116	\$161,395,609	
Dumbarton-XS	Dumbarton Wye South to Caltrain	0.96	0.60	\$13,082,432	\$21,054,134	\$12,559,135	
	Dumbarton Bay Crossing to Don Edwards	11.55	7.18	\$53,574,758	\$86,220,216	\$618,788,460	
	Dumbarton Bay Crossing to Don Edwards Shinn to Niles Canyon	13.00 4.50	8.08 2.80	\$48,057,610 \$25,166,985	\$77,341,226 \$40,502,336	\$624,748,930 \$113,251,431	
Dumbarton (Tube		30.67	19.06	\$75,782,552	\$121,960,196	\$2,324,099,311	
	Dumbarton Wye North to Caltrain	2.20	1.37	\$73,361,640	\$118,064,116	\$161,395,609	
Dumbarton-XS	Dumbarton Wye South to Caltrain	0.96	0.60	\$13,082,432	\$21,054,134	\$12,559,135	
Dumbarton-1 (Tube)	Dumbarton Bay Crossing to Don Edwards	10.01	6.22	\$100,498,996	\$161,737,456	\$1,005,793,953	
	Dumbarton Bay Crossing to Don Edwards	13.00 4.50	8.08 2.80	\$79,315,322 \$25,166,985	\$127,645,637 \$40.502.336	\$1,031,099,183 \$113,251,431	
	Shinn to Niles Canyon Park (High Bridge)	32.36	20.11	\$84,449,717	\$40,502,336 \$135,908,645	\$2,732,623,930	
	Dumbarton Wye North to Caltrain	2.20	1.37	\$73,361,640	\$118.064.116	\$161,395,609	
Dumbarton-XS	Dumbarton Wye South to Caltrain	0.96	0.60	\$13,082,432	\$21,054,134	\$12,559,135	
	Dumbarton Bay Crossing to Don Edwards	10.01	6.22	\$88,615,763	\$142,613,246	\$886,866,552	
,	Fremont Central Park	19.19	11.92	\$87,118,428	\$140,203,519	\$1,671,802,634	
	Park (Low Bridge)	34.94 2.20	21.71 1.37	\$64,246,458 \$73,361,640	\$103,394,652 \$118.064.116	\$2,244,771,247 \$161,395,609	
Dumbarton-XN	Dumbarton Wye North to Caltrain Dumbarton Wye South to Caltrain	0.96	0.60	\$13,082,432	\$118,064,116	\$101,395,009	
	Dumbarton Bay Crossing to Don Edwards	11.55	7.18	\$53,574,758	\$86,220,216	\$618,788,460	
	Fremont Central Park	20.23	12.57	\$71,775,978	\$115,512,240	\$1,452,028,043	
Fremont Central	1 /	34.94	21.71	\$88,556,605	\$142,518,041	\$3,093,990,660	
	Dumbarton Wye North to Caltrain	2.20	1.37	\$73,361,640	\$118,064,116	\$161,395,609	
Dumbarton-XS Dumbarton-1 (Tube)	Dumbarton Wye South to Caltrain Dumbarton Bay Crossing to Don Edwards	0.96 10.01	0.60 6.22	\$13,082,432 \$100,498,996	\$21,054,134 \$161,737,456	\$12,559,135 \$1,005,793,953	
1 /	Fremont Central Park	21.77	13.53	\$87,930,269	\$141,510,051	\$1,914,241,964	
Central Valley							
BNSF - UPRR		149.65	92.99	\$15,891,685	\$25,575,188	\$2,378,190,686	
	North Stockton South to UPRR Connection	17.50	10.87	\$8,362,619	\$13,458,330	\$146,345,827	
BNSF N/S-2 BNSF N/S-3	BNSF Parallel to UPRR tracks	3.50 13.55	2.17 8.42	\$8,090,264	\$13,020,018 \$22,417,794	\$28,315,925 \$188,748,403	
BNSF N/S-4	Parallel tracks South through Escaton Escaton South to Amtrak Briggsmore	13.85	8.42	\$13,929,771 \$18,871,199	\$30,370,251	\$188,748,403	
BNSF N/S-5	Amtrak Briggsmore to UPRR/BNSF Connection	39.85	24.76	\$15,645,491	\$25,178,977	\$623,472,816	
	UPRR/BNSF Connection to Atwater	6.30	3.91	\$16,322,332	\$26,268,248	\$102,830,695	
	Atwater to Downtown Merced	17.00	10.56	\$25,661,185	\$41,297,674	\$436,240,142	
UPRR N/S-8 UPRR N/S-9	Merced South to BNSF Connection BNSF Connection South to Henry Miller Wye	4.75 17.45	2.95 10.84	\$32,162,740	\$51,760,913	\$152,773,015 \$151,571,252	
	BNSF Connection South to Henry Miller Wye BNSF Henry Miller Wye	15.90	9.88	\$8,686,037 \$18,020,529	\$13,978,822 \$29,001,230	\$151,571,352 \$286,526,405	
BNSF		161.55	100.38	\$15,203,210	\$24,467,194	\$2,456,078,506	
BNSF N/S-1	North Stockton South to UPRR Connection	17.50	10.87	\$8,362,619	\$13,458,330	\$146,345,827	
	BNSF Parallel to UPRR tracks	3.50	2.17	\$8,090,264	\$13,020,018	\$28,315,925	
	Parallel tracks South through Escaton	13.55	8.42	\$13,929,771	\$22,417,794	\$188,748,403	
	Escaton South to Amtrak Briggsmore Amtrak Briggsmore to UPRR/BNSF Connection	13.85 39.85	8.61 24.76	\$18,871,199 \$15,645,491	\$30,370,251 \$25,178,977	\$261,366,107 \$623,472,816	
	UPRR/BNSF Connection to Atwater	6.30	3.91	\$16,322,332	\$26,268,248	\$102,830,695	
	Atwater to Downtown Merced	17.00	10.56	\$25,661,185	\$41,297,674	\$436,240,142	
	Merced South to UPRR Connection	8.00	4.97	\$32,682,285	\$52,597,039	\$261,458,279	
	UPRR Connection East to Castle Connection	17.66	10.97	\$9,825,892	\$15,813,240	\$173,495,771	
BNSF N/S-10 BNSF N/S-11	Castle Connection to Henry Miller Wye Henry Miller Wye	13.44 10.90	8.35 6.77	\$10,838,922 \$8,082,286	\$17,443,554 \$13,007,178	\$145,707,628 \$88,096,913	
UPRR	nong milet vige	134.95	83.85	\$18,862,722	\$30,356,608	\$2,545,524,294	
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159	
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683	
UPRR N/S-3 UPRR N/S-4	Manteca South to BNSF/UPRR BNSF?UPRR South to Modesto	3.30 18.50	2.05 11.50	\$7,761,402 \$15,559,246	\$12,490,765 \$25,040,179	\$25,612,626 \$287,846,051	
	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237	
	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140	
UPRR N/S-6	South Modesto to Birst Confection						
UPRR N/S-6 UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624	
UPRR N/S-6 UPRR N/S-7 UPRR N/S-8		33.25 4.75 17.45	20.66 2.95 10.84	\$16,572,019 \$32,162,740 \$8,686,037	\$26,670,079 \$51,760,913 \$13,978,822	\$551,019,624 \$152,773,015 \$151,571,352	

Appendix 4-C High-Speed Train Alignment Alternatives Capital Cost Includes Contingencies and Program Implementation Cost

Ali	gnment Option by Region and Segment	Segment L	ength	Avg Co	st	Segment/Station Costs
		km	miles	\$/km	\$/mile	
Central Valley BNSF C	hand de	1=.1	1	******		** *** ***
		148.74	92.42	\$14,323,359	\$23,051,212	\$2,130,413,4
NSF N/S-1	North Stockton South to UPRR Connection	17.50	10.87	\$8,362,619	\$13,458,330	\$146,345,8
NSF N/S-2	BNSF Parallel to UPRR tracks	3.50	2.17	\$8,090,264	\$13,020,018	\$28,315,9
NSF N/S-3	Parallel tracks South through Escaton	13.55	8.42	\$13,929,771	\$22,417,794	\$188,748,4
NSF N/S-4	Escaton South to Amtrak Briggsmore	13.85	8.61	\$18,871,199	\$30,370,251	\$261,366,
NSF N/S-5	Amtrak Briggsmore to UPRR/BNSF Connection	39.85	24.76	\$15,645,491	\$25,178,977	\$623,472,
NSF Castle-1	From BNSF Southeast to Castle AFB	17.60	10.94	\$9,100,491	\$14,645,821	\$160,168,6
INSF Castle-2	Castle AFB South to BNSF Connect	10.52	6.54	\$22,904,277	\$36,860,860	\$240,998,
NSF Castle-3	BNSF South of Castle to UPRR Connecct	8.02	4.98	\$30,814,309	\$49,590,824	\$247,192,
SNSF N/S-10	Castle Connection to Henry Miller Wye	13.44	8.35	\$10,838,922	\$17,443,554	\$145,707,
NSF N/S-11	Henry Miller Wye	10.90	6.77	\$8,082,286	\$13,007,178	\$88,096,9
	BNSF Castle	139.24	86.52	\$17,417,257	\$28,030,358	\$2,425,126,6
JPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,
PRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,
PRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,
PRR N/S-4	BNSF?UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,
PRR N/S-5a *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283
PRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,
PRR-BNSF X-2	North South Connection East of Stockton (South Portion)	15.15	9.41	\$9,196,591	\$14,800,478	\$139,328,
NSF Castle-1	From BNSF Southeast to Castle AFB	17.60	10.94	\$9,100,491	\$14,645,821	\$160,168,
NSF Castle-2	Castle AFB South to BNSF Connect	10.52	6.54	\$22,904,277	\$36,860,860	\$240,998,
NSF Castle-3	BNSF South of Castle to UPRR Connecct	8.02	4.98	\$30,814,309	\$49,590,824	\$247,192,
NSF N/S-10	Castle Connection to Henry Miller Wye	13.44	8.35	\$10,838,922	\$17,443,554	\$145,707,
NSF N/S-11	Henry Miller Wye	10.90	6.77	\$8,082,286	\$13,007,178	\$88,096,
UPRR -		140.15	87.09	\$19,071,736	\$30,692,985	\$2,672,903,8
JPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,
JPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,
PRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,
PRR N/S-4	BNSF?UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,
PRR N/S-5a * PRR N/S-6	UPRR Modesto South - Western Option South Modesto to BNSF Connection	4.20 20.90	2.61 12.99	\$84,115,056 \$21,150,677	\$135,370,061 \$34,038,714	\$353,283, \$442,049,
PRR-BNSF X-2	North South Connection East of Stockton (South Portion)	15.15	9.41	\$21,150,677	\$34,038,714 \$14,800,478	\$139,328,
	• • • • • • • • • • • • • • • • • • • •		3.91			
NSF N/S-6 NSF N/S-7	UPRR/BNSF Connection to Atwater Atwater to Downtown Merced	6.30 17.00	10.56	\$16,322,332 \$25.661,185	\$26,268,248 \$41,297.674	\$102,830,
				,		\$436,240
PRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773
PRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,
PRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,
tation Options						
	Modesto (Downtown)					\$71,428
	Briggsmore (Amtrak)					\$71,428
	Merced (Downtown)	1			ļ	\$71,428
	Castle Air Force Base					\$71,428,

Double Track Section Total km 949,197 0.00 16.55 153,44,428 2 Double Track Section - Or Shouther km 949,197 0.00 150 156,5 153,44,428 2 Double Track Section - Or Shouther km 93,178,240 0.00 150 0.00	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
Dabby Track Sedien Total Agrees	Alianment Cost			4th/Tov	nsend		
Dubble Took Screen - A Groebe Imm \$993-101 0.000 501 1.46 \$13,344.592 1.000	Track						
2							
3							
Double Trask Section - In French				-		_	
Septe Trees Section - Treat Mm							
Seption Floats Section - Al Grade Seption Floats Section - Al Grade Seption Floats Section - Al Trumed or Subseque Imm Seption Floats Section - Al Trumed Section Imm Seption Floats S			\$1,070,243	_	\$0	_	\$2,000,007
Segrip Track Section - 10 Services Am \$999.121 0.00 5.01 1.00 1.0			\$496 583		\$0		\$0
2 Single Tools Societies in Flammer of Subrouy Im \$999.127 5.00 \$4.06.000 \$10.00 \$31,25,883 \$10.00 \$10.00 \$2.00 \$10.00 \$2.00 \$10.00 \$2.00 \$10.00 \$2.00 \$10.00 \$2.00 \$10.00 \$2.00 \$10.00 \$2.00 \$10.00 \$2.00 \$2.00 \$10.00 \$2.00				-		_	
Part							
10 Freight Strage Tracks A Grade		km	\$939,121				
Interference		km	\$993,167	0.00		0.00	\$0
Sile Preparation - Underveloped hectare \$1,2091 3 50,000 50 50,000 50 30 30 30 30 30 30		km	\$496,583	0.00	\$0	0.00	\$0
2		la a ataura	¢12.001	0.00	Φ0	0.00	* 0
Bit				-		_	
Borrow				_			
Septile Maching States (anachagaing/Fresion Control) Medicar Septile (anachagaing/Fresio				_		_	
Barrier Segres (Lundscapping/Frosten Control) Inchase Seg.							
Separate Teacher Separate				-		_	
Special Forange Facilities							
Standard Structure	8 Special Drainage Facilities	5% of			\$1		
2	Structures/Tunnels/Walls						
3				_			
Mail Content of the				-		_	
Secondary (Irrigation/Canal Crossing)							
New Single Track Drill & Blast (c6 Miles)				-		_	
7 Win Single Track TRM (< of Miles)							
Name				-		_	
9 Double Track Drill & Blast km \$83,740,573 0.00 \$0 0.00 \$0 \$0 \$10 \$10 \$240,018,024 0.00 \$0 \$10 \$10 \$240,018,024 0.00 \$20 \$11 \$280,018,019 0.00 \$20 0.00 \$0 \$0 \$0 \$0 \$0 \$0							
10 Double Track Mined (Soft Soil) km \$96,247,282 2.50 \$240,018,204 0.00 \$9.				-		_	
11 Sessinic Chamber (Delli & Blast/Mined) ea \$94,803,899 0.00 \$0 0.00 \$9							
13 Cut & Cover Double Track Tunnel		ea		0.00		0.00	\$0
14 Trench Short	12 Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
15 Trench Long	13 Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
16 Mechanical & Electrical for Tunnels		km		-		_	
17 Retaining Walls							
Section Sect							
19 Single Track Cut and Cover Subway km \$30,077,276 0.00 50 0.00				-		_	
Table Separations				_			
Sreet Overcrossing HSR - Undaw FA \$17,167,417 0.00 \$0 0.00 \$0 0.00 \$0 \$		KIII	\$30,077,270	0.00	\$0	0.00	\$0
2 Sreet Overcrossing HSR - Suburban		FA	\$17 167 417	0.00	\$0	0.00	\$0
Serest Overcrossing HSR - Undeveloped				-		_	
5 Sreet Undercrossing HSR - Suburban EA \$6,866,967 0.00 \$0 0.00 \$0 6 Sreet Undercrossing HSR - Undeveloped EA \$1,157,211 0.00 \$0 0.00 \$0 7 Street Bridging HSR Trench EA \$178,032 0.00 \$0 0.00 \$0 8 Minor crossing closure EA \$178,032 0.00 \$0 0.00 \$0 1 Single Track Relocation (temporary) km \$1,271,661 0.00 \$0 0.00 \$0 2 Single Track Relocation (permanent) km \$63,372 0.00 \$0 0.00 \$0 3 Single Track Relocation (permanent) km \$63,372 0.00 \$0 0.00 \$0 3 Single Track Relocation (permanent) km \$63,372 0.00 \$0 0.00 \$0 3 Single Track Relocation vice (permanent) km \$63,372 0.00 \$0 0.00 \$0 0.00 \$0 4							
EA \$1,157,211 0.00 \$0 0.00 \$0 \$0 \$0 \$0		EA		0.00	\$0	8.00	\$143,443,305
Test Bridging HSR Trench		EA	\$6,866,967	0.00	\$0	0.00	\$0
Minor crossing closure			\$1,157,211				
All and Utility Relocation Single Track Relocation (temporary) km \$1,271,661 0.00 \$0 0.00 \$0 \$0 \$0 \$0				-		_	
Single Track Relocation (temporary)		EA	\$178,032	0.00	\$0	0.00	\$0
Single Track Relocation (permanent)		line	61 071 //1	0.00	#0	0.00	***
Single Track Removal Rm \$63,372 0.00 \$0 0.00 \$0 \$0 \$0 \$0							
Major Utility Relocation - Urban km \$680,338 0.00 \$0 0.00 \$0 0.00 \$0 \$							
Major Utility Relocation - Suburban km \$273,407 0.00 \$0							
8 Major Utility Relocation - Undeveloped km \$13,988 0.00 \$0 0.00 \$0 ight-of-Way Image: Right-of-Way Required for Each Segment Image: Right-of-Way Rig							
Right-of-Way Required for Each Segment							
Urban	Right-of-Way						
Suburban hectare \$479,081 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.00 \$0 0.000 \$0 \$							
Undeveloped hectare \$342,201 0.00 \$0 0.000 \$0							
Environmental Mitigation 3% of Line Cost \$7,718,078 \$19,818,578							
Environmental Mitigation 3% of Line Cost \$7,718,078 \$19,818,578		hectare	\$342,201	0.00	\$0	0.000	\$0
Signaling (ATC) Signaling		001	films Cost	T	¢7 740 0==		610.010.555
Signaling (ATC)		3% 0	i Line Cost		\$7,718,078		\$19,818,578
2 Communications (w/Fiber Optic Backbone) km \$699,413 2.50 \$1,748,533 22.58 \$15,792,752 3 Wayside Protection System km \$67,144 2.50 \$167,859 22.58 \$1,516,104 lectrification I tems Traction Power Supply km \$432,365 2.50 \$1,080,911 22.58 \$9,762,792 2 Traction Power Distribution km \$806,233 2.50 \$2,015,582 22.58 \$18,204,736 rogram Implementation Costs (PER SCREENING) Program Implementation Costs 25.5% of Total Cost & Procurement \$67,571,771 \$173,511,647 ontingencies (PER SCREENING) Contingencies 25% of Total Construction Cost \$66,246,835 \$170,109,458 Cotal Construction \$257,269,261 \$660,619,255 otal Construction and Right of Way (Includes Environmental Mitigation) \$264,987,338 \$680,437,832		km	\$215.651	2 50	\$2 114 126	22 50	\$10,004,872
Wayside Protection System							
Internation Items							
Traction Power Supply	Electrification Items		+=/////	2.50	+ . 3. 1007	22.00	, , , , , , , , , , , ,
2 Traction Power Distribution km \$806,233 2.50 \$2,015,582 22.58 \$18,204,736 rogram Implementation Costs (PER SCREENING) Program Implementation Costs 25.5% of Total Cost & Procurement \$67,571,771 \$173,511,647 ontingencies (PER SCREENING) Contingencies 25% of Total Construction Cost \$66,246,835 \$170,109,458 otal Construction \$257,269,261 \$660,619,255 otal Construction and Right of Way (Includes Environmental Mitigation) \$264,987,338 \$680,437,832		km	\$432,365	2.50	\$1,080,911	22.58	\$9,762,792
Program Implementation Costs 25.5% of Total Cost & Procurement \$67,571,771 \$173,511,647 contingencies (PER SCREENING) Contingencies \$66,246,835 \$170,109,458 cotal Construction \$25% of Total Construction Cost \$257,269,261 \$660,619,255 otal Construction and Right of Way (Includes Environmental Mitigation) \$264,987,338 \$680,437,832		km	\$806,233	2.50	\$2,015,582	22.58	\$18,204,736
ontingencies (PER SCREENING) Contingencies 25% of Total Construction Cost \$66,246,835 \$170,109,458 otal Construction \$257,269,261 \$660,619,255 otal Construction and Right of Way (Includes Environmental Mitigation) \$264,987,338 \$680,437,832	Program Implementation Costs (PER SCREENING)						
Contingencies 25% of Total Construction Cost \$66,246,835 \$170,109,458 otal Construction \$257,269,261 \$660,619,255 otal Construction and Right of Way (Includes Environmental Mitigation) \$264,987,338 \$680,437,832		25.5% of Total	Cost & Procurement		\$67,571,771		\$173,511,647
otal Construction \$257,269,261 \$660,619,255 otal Construction and Right of Way (Includes Environmental Mitigation) \$264,987,338 \$680,437,832	Contingencies (PER SCREENING)				.,,		
otal Construction and Right of Way (Includes Environmental Mitigation) \$264,987,338 \$680,437,832		25% of Total	Construction Cost				
		itimatiam)					
\$398,805,944 \$1,024,058,938		iligation)					
	Jrang Total				\$398,805,944		\$1,024,058,938

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				Millbrae/SFO to		Redwood City	
,	ment Cost			CALTRA		CALTRA	
Track		km		Quantities 18.75	Item Cost	Quantities 0.75	Item Cost
1	Double Track Section-Total Double Track Section - At Grade	km km	\$993,167	18.75	\$18,621,879	0.75	\$744,875
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$10,021,077	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
-	Single Track Section - Total	km	\$407 F00	0.00	**	0.00	**
5 6	Single Track Section - At Grade Single Track Section - On Strcuture	km km	\$496,583 \$939,121	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Single Track Section - On Structure Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0 \$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	nwork and Related Items		440.004	0.00	**	0.00	***
2	Site Preparation - Undeveloped Cut	hectare m3	\$12,081 \$9	0.00 <u> </u>	\$0 \$1,525,605	0.00	\$0 \$0
3	Fill	m3	\$9	1,109,803	\$9,879,049	78,315	\$697,131
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	18.75	\$1,907,491	0.75	\$76,300
8 Struc	Special Drainage Facilities	5% 0	f Earthwork		\$665,607		\$38,672
Struc 1	stures/Tunnels/Walls Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0
2	High Structure	km	\$13,733,933 \$16,480,720	0.000	\$0 \$0	0.000	\$0 \$0
3	Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.000	\$0	0.000	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.000	\$0	0.000	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.000	\$0	0.000	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.000	\$0	0.000	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643 \$83,740,573	0.000	\$0	0.000	\$0
9	Double Track Drill & Blast Double Track Mined (Soft Soil)	km km	\$96,247,282	0.000 0.000	\$0 \$0	0.000 0.000	\$0 \$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0
12	Crossovers	ea	\$94,803,899	0.000	\$0	0.000	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.000	\$0	0.000	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0	0.000	\$0
17 18	Retaining Walls Containment Walls	km km	\$4,399,945 \$1,500,559	10.150 0.000	\$44,659,445 \$0	0.750 0.000	\$3,299,959 \$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0 \$0
	e Separations	Na i	\$00 011 E10	0.000	+0	0.000	
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	18.00	\$322,747,436	2.00	\$35,860,826
5	Sreet Undercrossing HSR - Suburban Sreet Undercrossing HSR - Undeveloped	EA EA	\$6,866,967 \$1,157,211	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Street Bridging HSR Trench	EA	\$1,137,211	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail a	and Utility Relocation	·					
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3 5	Single Track Removal Major Utility Relocation - Urban	km km	\$63,372 \$680,338	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Major Utility Relocation - Orban Major Utility Relocation - Suburban	km	\$680,338	0.00	\$0 \$0	0.00	\$0 \$0
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.00	\$0	0.00	\$0
Right	t-of-Way	'					
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	0.00	\$0	0.00	\$0
Envir	Undeveloped commental Mitigation	hectare	\$342,201	0.00	\$0	0.00	\$0
LIIVII	Environmental Mitigation	3% 0	of Line Cost		\$13,603,775		\$1,285,676
Syste	em Elements						, , , , , , , , , , ,
1	Signaling (ATC)	km	\$845,654	18.75	\$15,856,017	0.75	\$634,241
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	18.75	\$13,113,999	0.75	\$524,560
3	Wayside Protection System	km	\$67,144	18.75	\$1,258,944	0.75	\$50,358
	Traction Power Supply	lm	\$422.245	10 75	\$0.104.037	0.75	\$224.272
2	Traction Power Supply Traction Power Distribution	km km	\$432,365 \$806,233	18.75 18.75	\$8,106,836 \$15,116,864	0.75	\$324,273 \$604,675
	ram Implementation Costs (PER SCREENING)	KIII	ψουυ,233	10.75	ψ15,110,004	0.75	Ψ004,073
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$119,101,051		\$11,256,094
Cont	ingencies (PER SCREENING)						
	Contingencies	25% of Tota	Construction Cost		\$116,765,736		\$11,035,386
	Construction				\$453,459,171		\$42,855,869
	Construction and Right of Way (Includes Environmental Mitig	jation)			\$467,062,946		\$44,141,545
Gran	d Total				\$702,929,734		\$66,433,025

	COST ELEMENTS	UNIT	UNIT PRICE		QUANTITIES			
				Caltrain Dumb	arton Wyo	Dumbarton Wy	o to Dalo Alto	
Align	ment Cost			CALTRA		CALTR	AIN 6	
Tracl				Quantities	Item Cost	Quantities	Item Cost	
1	Double Track Section-Total	km	\$993,167	1.62 1.62	¢1 400 022	5.23 5.23	\$5,193,269	
2	Double Track Section - At Grade Double Track Section - On Structure	km km	\$1,878,243	0.00	\$1,609,923 \$0	0.00	\$5,193,269	
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0	
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0	
	Single Track Section - Total	km		0.00		0.00		
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0	
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0	
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0	
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0	
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0	
_	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0	
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0	
2	Cut	m3	\$9	32,915	\$292,997	27,240	\$242,480	
3	Fill	m3	\$9	20,884	\$185,902	417,680	\$3,718,030	
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0	
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0	
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0	
7	Fencing (Both Sides of R/W)	km	\$101,733	1.62	\$164,909	5.23	\$531,961	
8	Special Drainage Facilities	5% of	f Earthwork		\$32,190		\$224,624	
	ctures/Tunnels/Walls			22				
1	Standard Structure	km	\$13,733,933	0.000	\$0	0.000	\$0	
2	High Structure	km	\$16,480,720	0.000	\$0	0.000	\$0	
3	Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0	
4	Waterway Crossing - Primary	km	\$28,876,734	0.000	\$0	0.000	\$0	
5 6	Waterway Crossing - Secondary (Irrigation/Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km km	\$23,119,226 \$75,040,254	0.000	\$0 \$0	0.000 0.000	\$0 \$0	
7	Twin Single Track Driff & Blast (<6 Miles)	km	\$55,464,535	0.000	\$0 \$0	0.000	\$0	
8	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.000	\$0 \$0	0.000	\$0 \$0	
9	Double Track Drill & Blast	km	\$83,740,573	0.000	\$0 \$0	0.000	\$0	
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.000	\$0	0.000	\$0	
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.000	\$0	0.000	\$0	
12	Crossovers	ea	\$94,803,899	0.000	\$0	0.000	\$0	
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.000	\$0	0.000	\$0	
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0	
15	Trench Long	km	\$39,272,836	0.000	\$0	0.000	\$0	
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.000	\$0	0.000	\$0	
17	Retaining Walls	km	\$4,399,945	0.200	\$879,989	4.000	\$17,599,781	
18	Containment Walls	km	\$1,500,559	0.000	\$0	0.000	\$0	
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.000	\$0	0.000	\$0	
Grad	e Separations							
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0	
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0	
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0	
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	1.00	\$17,930,413	7.00	\$125,512,892	
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0	
6	Street Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0	
7	Street Bridging HSR Trench	EA	\$0 \$179.022	0.00	\$0 \$0	0.00	\$0 \$0	
8 Dail	Minor crossing closure and Utility Relocation	EA	\$178,032	0.00	\$0	0.00	\$0	
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0	
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0 \$0	0.00	\$0	
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0	
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	0.00	\$0	
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	0.00	\$0	
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.00	\$0	0.00	\$0	
	t-of-Way							
1	Right-of-Way Required for Each Segment							
	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0	
	Suburban	hectare	\$479,081	0.00	\$0	0.00	\$0	
	Undeveloped	hectare	\$342,201	0.00	\$0	0.00	\$0	
nvii	ronmental Mitigation				A	10	AP	
	Environmental Mitigation	3% 0	f Line Cost		\$771,525		\$5,037,89	
syste	em Elements Signaling (ATC)	I	¢04E /E4	1 (0	¢1 270 001	F 00	64 404 00	
1	Signaling (ATC)	km	\$845,654	1.62	\$1,370,806	5.23	\$4,421,920	
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	1.62	\$1,133,749	5.23	\$3,657,232	
3 Floct	Wayside Protection System rification Items	km	\$67,144	1.62	\$108,840	5.23	\$351,09	
1	Traction Power Supply	km	\$432,365	1.62	\$700,863	5.23	\$2,260,83	
2	Traction Power Supply Traction Power Distribution	km	\$432,365	1.62	\$1,306,903	5.23	\$2,260,83	
	ram Implementation Costs (PER SCREENING)	KIII	φυυυ,∠οο	1.02	ψ1,300,703	0.23	φ4,∠10,/9	
· Jy	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$6,754,697		\$44,106,79	
Cont	ingencies (PER SCREENING)	20.570 OF TOTAL	SSSE & FISCUICITICITE		ψ0,734,077		ψ-1-1,100,77.	
٥.16	Contingencies	25% of Total	Construction Cost		\$6,622,252		\$43,241,95	
	l Construction	20,0 01 10181			\$25,717,484		\$167,929,91	
ota					-,,			
	Construction and Right of Way (Includes Environmental Mit	igation)			\$26,489,009		\$172,967,813	

Decide Frost Section Fold Control No. 1997 1998	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
Decide Frost Section Fold Control No. 1997 1998	Alignment Cost		-				
Double Trans Section - All Grade	0		<u> </u>	Quantities	Item Cost		Item Cost
2	Double Track Section-Total	km		22.55		5.00	
Bouldes Track Section in Turned or Subsony	Double Track Section - At Grade	km	\$993,167	20.15	\$20,012,312	0.15	\$148,975
Double-Frace Section - In French Mm 13,278,243 1,46 2,429,940 0.18 320,17	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	1.00	\$1,878,243
Striple Track Section - 1 Oil No 1496, 561 0.00		km	\$1,878,243	1.00	\$1,878,243	3.70	\$6,949,497
Single Track Section - All Grade	4 Double Track Section - In Trench	km	\$1,878,243	1.40	\$2,629,540	0.15	\$281,736
Septile Trans Section - On Structures		km					
Single Track Section in Turner or Sudway	5 Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Single Track Section - In Tranch		km					\$0
Frengist Depaids Track - All Grades	7 Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
Temple Single Trais. A Formic Non \$496,568 \$0.00 \$10 \$10 \$10 \$11 \$11 \$11 \$11 \$11 \$13 \$	8 Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
Set Proposed - Underlooped	9 Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
Silic Pregnation - Undeveloped heciare \$31,081 0.00 50 0.00	10 Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
2 Cut	Earthwork and Related Items						
File	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
B Borrow	2 Cut	m3	\$9	667,535	\$5,942,145	373,996	\$3,329,172
Separation Sep	3 Fill	m3	\$9	626,633	\$5,578,051	1,143,150	\$10,175,891
Control Stopes Canniscaping/Froston Control) Next	4 Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
Separation Science of Rivery Separation Science Separation Separation Science Separation Science Separation Separation Science Separation Separation Science Separation S	5 Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
Separation Science of Rivery Separation Science Separation Separation Science Separation Science Separation Separation Science Separation Separation Science Separation S		hectare	\$8,075	0.00	\$0	0.00	\$0
Second Dorantings Facilities		km	\$101,733	21.55	\$2,192,343	1.35	\$137,339
Standard Structure		5% o	f Earthwork		\$685,627		\$682,120
High Structure	Structures/Tunnels/Walls						
Series Company Series		km	\$13,733,933	0.000	\$0	0.000	\$0
Selection Contamental Male Selection	2 High Structure	km	\$16,480,720	0.000	\$0	1.000	\$16,480,720
Waterway Crossing - Primary km \$22,817,224 0.000 50 0.000	3 Long Span Structure	km	\$37,577,568	0.000	\$0	0.000	\$0
Waterway Crossing - Secondary ((ringation/Canal Crossing) km \$23,119,226 0,000 30 0,000							\$0
Twin Single Track Till (a Miles)	5 Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.000	\$0	0.000	\$0
Twin Single Track TBM (< Miles)		km		0.000	\$0	0.000	\$0
Second Company Track TRB w/3rd Tube (>6 Miles) km \$78,846,643 0,000 50 0,000				0.000	\$0	0.000	\$0
Double Frack Mined (Soff Soil)							\$0
10 Double Track Mined (Soft Soil)				-		_	\$0
11 Sebric Chamber (Pril & Blash/Mined)							\$0
12 Crossovers				-		_	\$0
13							\$0
Trench Short							
15 Trench Long							
16 Mechanical & Electrical for Tunnels						_	\$0
Retaining Walls							
18 Containment Walls							\$0
19 Single Track Cut and Cover Subway Km \$30,077,276 0.000 SO 0.000						_	\$0
							\$0
1 Sreet Overcrossing HSR - Suburban		KIII	Ψ30,011,210	0.000	ΨΟ	0.000	\$0
2 Sreet Overcrossing HSR - Suburban		FΔ	\$17 167 417	0.00	0.2	3.00	\$51 502 250
3 Sreet Overcrossing HSR - Undeveloped				-		_	\$0
Sirget Undercrossing HSR - Urban							\$0
Seriest Undercrossing HSR - Suburban				-		_	\$0
6 Sereet Undercrossing HSR - Undeveloped							\$0
Total Construction Street Bridging HSR Trench EA \$0 0.00				-		_	\$0
Minor crossing closure							\$0
Rail and Utility Relocation Single Track Relocation (temporary) km \$1,271,661 0.00 \$0 0.00				-		_	\$0
Single Track Relocation (temporary)	J	LO	ψ170,032	3.00	ΨΟ	0.00	40
Single Track Relocation (permanent)		km	\$1 271 661	0.00	\$0	0.00	\$0
Single Track Removal							\$0
Signaling (ATC) Signaling							\$0
Major Utility Relocation - Suburban km \$273,407 0.00 \$0 0.00							\$0
Right-of-Way Right-of-Way Required for Each Segment Right-of-Way Reguired for Each Segment Right-of-Way Reguire							\$0
Right-of-Way Required for Each Segment							\$0
Right-of-Way Required for Each Segment	, ,	KIII	\$15,700	0.00	Ψ0	0.00	Ψ0
Urban				T			
Suburban		hoctaro	\$2 727 609	0.00	\$0	0.00	\$0
Undeveloped hectare \$342,201 0.00 \$0 0.00							\$0
Environmental Mitigation 3% of Line Cost \$11,439,225 \$8,954							\$0
Environmental Mitigation 3% of Line Cost \$11,439,225 \$8,954		nctare	ΨυπΖ,ΖΟΙ	0.00	φυ	0.00	ΦU
Signaling (ATC)		3% 0	of Line Cost	T	\$11 439 225	I	\$8,954,214
1 Signaling (ATC) km \$845,654 22.55 \$19,069,503 5.00 \$4,228 2 Communications (WFiber Optic Backbone) km \$699,413 22.55 \$15,771,769 5.00 \$3,497 3 Wayside Protection System km \$67,144 22.55 \$1,514,090 5.00 \$335 Electrification Items 1 Traction Power Supply km \$432,365 22.55 \$9,749,821 5.00 \$2,161 2 Traction Power Distribution km \$806,23 2.55 \$18,180,549 5.00 \$4,031 Program Implementation Costs (PER SCREENING) Program Implementation Costs (PER SCREENING) \$100,150,415 \$78,394 Contingencies (PER SCREENING) Contingencies (PER SCREENING) \$98,186,681 \$76,857 Total Construction \$381,307,499 \$298,473 Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427		370 0	0000		ψ,πο/,220		\$5,757,£17
2 Communications (W/Fiber Optic Backbone) km \$699,413 22.55 \$15,771,769 5.00 \$3,497 3 Wayside Protection System km \$67,144 22.55 \$1,514,090 5.00 \$335 Electrification Items 1 Traction Power Supply km \$432,365 22.55 \$9,749,821 5.00 \$2,161 2 Traction Power Distribution km \$806,233 22.55 \$18,180,549 5.00 \$4,015 Program Implementation Costs (PER SCREENING) Program Implementation Costs 25.5% of Total Cost & Procurement \$100,150,415 \$78,394 Contingencies (PER SCREENING) Contingencies (PER SCREENING) \$98,186,681 \$76,857 Total Construction \$381,307,499 \$298,473 Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427		km	\$845,654	22.55	\$19 069 503	5 00	\$4,228,271
3 Wayside Protection System km \$67,144 22.55 \$1,514,090 5.00 \$335 Electrification I tems							\$3,497,066
Traction Power Supply km \$432,365 22.55 \$9,749,821 5.00 \$2,161							\$335,718
1 Traction Power Supply km \$432,365 22.55 \$9,749,821 5.00 \$2,161 2 Traction Power Distribution km \$806,233 22.55 \$18,180,549 5.00 \$4,031 Program Implementation Costs (PER SCREENING) Program Implementation Costs 25.5% of Total Cost & Procurement \$100,150,415 \$78,394 Contingencies (PER SCREENING) Contingencies 25% of Total Construction Cost \$98,186,681 \$76,857 Total Construction \$381,307,499 \$298,473 Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427		KIII	ψ07,13-7	22.55	Ψ.,σ14,070	5.50	\$555,710
2 Traction Power Distribution km \$806,233 22.55 \$18,180,549 5.00 \$4,031 Program Implementation Costs (PER SCREENING) Program Implementation Costs 25.5% of Total Cost & Procurement \$100,150,415 \$78,394 Contingencies (PER SCREENING) Contingencies 25% of Total Construction Cost \$98,186,681 \$76,857 Total Construction \$381,307,499 \$298,473 Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427		km	\$432.365	22.55	\$9 749 821	5.00	\$2,161,823
Program Implementation Costs (PER SCREENING) Program Implementation Costs 25.5% of Total Cost & Procurement \$100,150,415 \$78,394 Contingencies (PER SCREENING) Contingencies 25% of Total Construction Cost \$98,186,681 \$76,857 Total Construction \$381,307,499 \$298,473 Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427							\$4,031,164
Program Implementation Costs 25.5% of Total Cost & Procurement \$100,150,415 \$78,394		KIII	ψυσυ,Ζυυ	22.00	ψ10,100,049	5.00	ψτ,υ31,104
Contingencies (PER SCREENING) Contingencies 25% of Total Construction Cost \$98,186,681 \$76,857 Total Construction \$381,307,499 \$298,473 Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427		25 5% of Total	Cost & Procurement	T	\$100.150.415		\$78,394,140
Contingencies 25% of Total Construction Cost \$98,186,681 \$76,857 Total Construction \$381,307,499 \$298,473 Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427		25.5 % UI 10tal	COSE & FIOCUIEIIIEII		\$100,130,413		\$10,394,14U
Total Construction \$381,307,499 \$298,473 Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427		2E0/ of Total	Construction Cost	T	\$00 104 401		\$76 0E7 000
Total Construction and Right of Way (Includes Environmental Mitigation) \$392,746,724 \$307,427		2070 UI 10ta	CONSTRUCTION COST				
		igation)					
Grand Total \$591,083,820 \$462,679		igation)					\$462,679,139

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				West Oakland t	are	12th Street/City	Square
)	ment Cost			Niles/I-		Niles/I-	880 1B Item Cost
Trac	Double Track Section-Total	km		Quantities 2.67	Item Cost	Quantities 4.40	Item Cost
1	Double Track Section - At Grade	km	\$993,167	1.75	\$1,738,042	1.15	\$1,142,142
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.52	\$976,686	2.85	\$5,352,991
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	0.40 4.05	\$751,297	0.40 0.70	\$751,297
5	Single Track Section - Total Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.70	\$0
6	Single Track Section - On Strutture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	8.10	\$7,606,882	1.40	\$1,314,770
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0 \$0	0.00	\$0
10 Farti	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0	\$0	0	\$0
3	Fill	m3	\$9	0	\$0	0	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5 6	Spoil Cut/Fill Slopes (Landscaping/Erosion Control)	m3 hectare	\$0.00 \$8,075	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0 \$0	0.00	\$0
8	Special Drainage Facilities		f Earthwork		\$0		\$0
_	ctures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
3	High Structure Long Span Structure	km km	\$16,480,720 \$37,577,568	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	4.05	\$224,631,368	0.00	\$0
9	Twin Single Track TBM w/3rd Tube (>6 Miles) Double Track Drill & Blast	km km	\$78,846,643 \$83,740,573	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0 \$0	0.00 _	\$67,373,097
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.52	\$25,024,293	2.85	\$137,152,376
14	Trench Short	km	\$49,668,587	0.40	\$19,867,435	0.40	\$19,867,435
15 16	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.00 4.57	\$0 \$8,826,325	0.00 3.55	\$0 \$6,856,336
17	Retaining Walls	km	\$4,399,945	0.00	\$0,020,323	0.00	\$0,830,330
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	e Separations				**		
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Suburban Sreet Overcrossing HSR - Undeveloped	EA EA	\$6,485,469 \$1,093,628	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8 Dail	Minor crossing closure and Utility Relocation	EA	\$178,032	0.00	\$0	0.00	\$0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	5.22	\$3,551,366	4.08	\$2,775,781
7	Major Utility Relocation - Suburban	km	\$273,407	0.79	\$215,718	1.02	\$278,875
8 Digh	Major Utility Relocation - Undeveloped t-of-Way	km	\$13,988	0.06	\$849	0.00	\$0
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	7.94	\$21,736,609	6.20	\$16,973,171
	Suburban	hectare	\$479,081	1.20	\$574,898	1.55	\$742,576
_	Undeveloped	hectare	\$342,201	0.09	\$30,798	0.00	\$0
I - nvii	ronmental Mitigation Environmental Mitigation	20/ 6	of Line Cost		\$9,370,431		\$7,722,127
LIIVII		370 C	n EITIC COSt		ψ7,37U, 4 31		Ψ1,122,121
	em Elements		\$845,654	6.72	\$5,682,796	5.10	\$4,312,837
	e m Elements Signaling (ATC)	km		6.72	\$4,700,057	5.10	\$3,567,008
Syste 1 2	Signaling (ATC) Communications (w/Fiber Optic Backbone)	km	\$699,413				
1 2 3	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System		\$699,413 \$67,144	6.72	\$451,205	5.10	\$342,433
1 2 3	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items	km km	\$67,144	6.72	\$451,205		
1 2 3 Elect	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply	km km	\$67,144 \$432,365	6.72	\$451,205 \$2,905,490	5.10	\$2,205,059
1 2 3 Elect 1 2	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items	km km	\$67,144	6.72	\$451,205		
Syste 1 2 3 Elect 1 2 Prog	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs	km km	\$67,144 \$432,365	6.72	\$451,205 \$2,905,490	5.10	\$2,205,059
System 1 2 3 Electron 1 2 Prog	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km km km km 25.5% of Total	\$67,144 \$432,365 \$806,233 Cost & Procurement	6.72	\$451,205 \$2,905,490 \$5,417,884 \$87,735,410	5.10	\$2,205,059 \$4,111,787 \$72,124,735
Syste 1 2 3 Elect 1 2 Prog	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING) Contingencies	km km km km 25.5% of Total	\$67,144 \$432,365 \$806,233	6.72	\$451,205 \$2,905,490 \$5,417,884 \$87,735,410 \$86,015,108	5.10	\$2,205,059 \$4,111,787 \$72,124,735 \$70,710,524
Syste 1 2 3 Elect 1 2 Prog	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km km km km 25.5% of Total 25% of Total	\$67,144 \$432,365 \$806,233 Cost & Procurement	6.72	\$451,205 \$2,905,490 \$5,417,884 \$87,735,410	5.10	\$2,205,059 \$4,111,787 \$72,124,735

	COST ELEMENTS	UNIT	UNIT PRICE	1	QUAN'	TITIES	
				Jack London Sq	uare to Oakland	Oakland Coliseur	m to Union City
				Colis		(BAF	,
_	nment Cost			Niles/I		Niles/I-	
Tracl	k Double Track Section-Total	km	<u> </u>	Quantities 3.95	Item Cost	Quantities 24.05	Item Cost
1	Double Track Section - At Grade	km	\$993,167	3.95	\$3,923,009	23.55	\$23,389,079
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.50	\$939,121
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km km	\$496,583	0.00 0.00	\$0	0.00 0.00	\$0
6	Single Track Section - At Grade Single Track Section - On Strouture	km	\$939,121	0.00	\$0 \$0	0.00	\$0 \$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Eartr	hwork and Related Items Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$12,001	0.00	\$0	155,297	\$1,382,395
3	Fill	m3	\$9	0	\$0	155,297	\$1,382,395
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W) Special Drainage Facilities	km 5% o	\$101,733 f Earthwork	0.00	\$0 \$0	20.40	\$2,075,350 \$242,007
	ctures/Tunnels/Walls	1 3%0	Lai HIWOIK		⊅∪		\$242,UU/
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.50	\$6,866,967
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km	\$23,119,226	0.00	\$0	0.00	\$0
7	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
8	Twin Single Track TBM (<0 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0 \$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14 15	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	le Separations	ΕA	¢17.1/7.417	0.00	*	0.00	***
2	Sreet Overcrossing HSR - Urban Sreet Overcrossing HSR - Suburban	EA EA	\$17,167,417 \$6,485,469	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	6.00	\$107,582,479	18.00	\$322,747,436
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
1	and Utility Relocation Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	3.67	\$2,496,842	18.28	\$12,436,585
7	Major Utility Relocation - Suburban	km	\$273,407	0.28	\$76,554	5.29	\$1,446,323
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.00	\$0	0.48	\$6,714
Righ:	t-of-Way Right-of-Way Required for Each Segment					T	
- 1	Urban	hectare	\$2,737,608	5.58	\$15,284,067	27.78	\$76,050,757
	Suburban	hectare	\$479,081	0.42	\$201,214	8.04	\$3,851,814
	Undeveloped	hectare	\$342,201	0.00	\$0	0.73	\$249,807
Envir	ronmental Mitigation						
r	Environmental Mitigation	3% c	f Line Cost		\$3,760,187		\$13,244,290
	em Elements Signaling (ATC)	l m	\$845,654	2.05	\$2.240.224	24.05	\$20,337,984
2	Signaling (ATC) Communications (w/Fiber Optic Backbone)	km km	\$699,413	3.95 3.95	\$3,340,334 \$2,762,682	24.05 24.05	\$20,337,984 \$16,820,889
3	Wayside Protection System	km	\$67,144	3.95	\$2,762,662	24.05	\$1,614,805
	trification Items			. 2.70	,	50	. , , 200
1	Traction Power Supply	km	\$432,365	3.95	\$1,707,840	24.05	\$10,398,368
2	Traction Power Distribution	km	\$806,233	3.95	\$3,184,619	24.05	\$19,389,898
Prog	ram Implementation Costs (PER SCREENING)	2F F0/ -6T : 1	Coot & Drown		#2/ O/O 107		¢12/ 202 / 11
Cont	Program Implementation Costs ingencies (PER SCREENING)	25.5% of Total	Cost & Procurement		\$36,869,187		\$136,392,611
ount	Contingencies	25% of Total	I Construction Cost		\$36,146,261		\$133,718,247
Total	I Construction	2370 01 1018	. construction cost		\$125,339,577		\$441,476,319
	I Construction and Right of Way (Includes Environmental Mitig	nation)			\$144,585,045		\$534,872,986
<u>To</u> tal	r construction and Right of Way (Includes Environmental with	gation					\$33 4 ,072,700

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN [*]	TITIES	
				Union City (BA	RT) to Niles		
				Junct		Niles Junction to	Niles Wye (S)
	ment Cost			Niles/I-8		Niles/I-8	
Tracl	Nouble Track Section-Total	km		Quantities 3.33	Item Cost	Quantities 7.31	Item Cost
1	Double Track Section - At Grade	km	\$993.167	3.33	\$3,308,239	5.52	\$5.481.288
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	1.79	\$3,363,932
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strouture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9 10	Freight Double Track - At Grade Freight Single Track - At Grade	km km	\$993,167 \$496,583	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	nwork and Related Items	KIII	\$490,000	0.00	\$0	0.00	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	21,945	\$195,346	36,574	\$325,568
3	Fill	m3	\$9	21,945	\$195,346	36,574	\$325,568
5	Borrow	m3 m3	\$13.35 \$0.00	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
6	Spoil Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	km	\$101,733	3.30	\$335,718	5.50	\$559,531
8	Special Drainage Facilities		f Earthwork		\$36,321		\$60,533
	ctures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	0.00	\$0	1.79	\$24,597,475
3	High Structure Long Span Structure	km km	\$16,480,720 \$37,577,568	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0 \$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
9	Twin Single Track TBM w/3rd Tube (>6 Miles) Double Track Drill & Blast	km	\$78,846,643 \$83,740,573	0.00 0.00	\$0	0.00 0.00	\$0
10	Double Track Mined (Soft Soil)	km km	\$96,247,282	0.00	\$0 \$0	0.00	\$0 \$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15 16	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	e Separations		447.447.447	0.00	40	0.00	**
2	Sreet Overcrossing HSR - Urban Sreet Overcrossing HSR - Suburban	EA EA	\$17,167,417 \$6,485,469	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Sreet Overcrossing HSR - Judeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0 \$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	2.00	\$13,733,933	5.00	\$34,334,834
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench Minor crossing closure	EA	\$0 ¢170.022	0.00	\$0	0.00	\$0
8 Rail:	and Utility Relocation	EA	\$178,032	0.00	\$0	0.00	\$0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	1.37	\$932,064	2.96	\$2,013,802
7 8	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	1.96 0.00	\$535,878 \$0	3.44 0.90	\$940,520 \$12,589
	t-of-Way	NIII	\$13,700	0.00	ΦΟ	0.70	ψ12,30 9
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	2.08	\$5,694,225	4.49	\$12,291,861
	Suburban	hectare	\$479,081	2.99	\$1,432,453	5.22	\$2,500,805
Envi	Undeveloped ronmental Mitigation	hectare	\$342,201	0.00	\$0	1.36	\$465,393
LIIVII	Environmental Mitigation	3% (of Line Cost		\$863,067		\$2,785,652
	em Elements	570 0	2551		\$555,001		\$2,,00,002
Syste		km	\$845,654	3.33	\$2,816,874	7.31	\$6,181,732
1	Signaling (ATC)		\$699,413	3.33	\$2,329,746	7.31	\$5,112,711
1 2	Signaling (ATC) Communications (w/Fiber Optic Backbone)	km			¢222 4E4	7.31	\$490,820
1 2 3	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System	km km	\$67,144	3.33	\$223,656	7.51	
1 2 3 Elect	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items	km					\$3 160 F0F
1 2 3	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System		\$432,365	3.33	\$1,440,206	7.31	\$3,160,585 \$5,893,561
1 2 3 Elect 1 2	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply	km					\$3,160,585 \$5,893,561
1 2 3 Elect 1 2 Prog	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs	km km km	\$432,365	3.33	\$1,440,206	7.31	\$5,893,561
1 2 3 Elect 1 2 Prog	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km km km 25.5% of Total	\$432,365 \$806,233 Cost & Procurement	3.33	\$1,440,206 \$2,685,561 \$9,373,451	7.31 7.31	\$5,893,561 \$28,279,184
1 2 3 Elect 1 2 Prog	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING) Contingencies	km km km 25.5% of Total	\$432,365 \$806,233	3.33	\$1,440,206 \$2,685,561 \$9,373,451 \$9,189,658	7.31 7.31	\$5,893,561 \$28,279,184 \$27,724,690
1 2 3 Elect 1 2 Prog	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km km km 25.5% of Total	\$432,365 \$806,233 Cost & Procurement	3.33	\$1,440,206 \$2,685,561 \$9,373,451	7.31 7.31	

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
Δliar	ment Cost			Niles Wye (S) to Niles/I-8		Warm Springs t Niles/I-	
Trac				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		2.33		11.67	
1	Double Track Section - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
3	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km km	\$1,878,243 \$1,878,243	2.33 0.00	\$4,378,183 \$0	11.67 0.00	\$21,917,212 \$0
4	Double Track Section - In Trainlei of Subway Double Track Section - In Trench	km	\$1,878,243	0.00	\$0 \$0	0.00	\$0 \$0
	Single Track Section - Total	km	\$1,070,243	0.00	Ψ0	0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earti	nwork and Related Items Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$12,081	0.00	\$0	0.00	\$0
3	Fill	m3	\$9	0 -	\$0	0 -	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0	0.00	\$0
8	Special Drainage Facilities	5% of	f Earthwork		\$0		\$0
	ctures/Tunnels/Walls		440 700 000	0.00	**	2.22	**
2	Standard Structure	km	\$13,733,933	0.00 2.33	\$0 \$38,416,559	0.00 11.67	\$0 \$192,313,523
	High Structure	km	\$16,480,720	_			
3	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
5	Waterway Crossing - Frinary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0 \$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
1	e Separations Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	2.00	\$35,860,826	2.00	\$35,860,826
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail	and Utility Relocation		1				
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.94	\$639,518	7.43	\$5,054,914
7	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	1.10 0.29	\$300,748 \$4,057	3.10 1.15	\$847,562 \$16,087
	t-of-Way	KIII	\$13,988	0.29	\$4,057	1.15	\$10,087
tign 1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	1.44	\$3,942,156	11.30	\$30,934,973
	Suburban	hectare	\$479,081	1.66	\$795,275	4.71	\$2,256,473
	Undeveloped	hectare	\$342,201	0.43	\$147,146	1.75	\$598,852
nvi	ronmental Mitigation						
	Environmental Mitigation	3% o	f Line Cost		\$2,587,354		\$8,678,286
Syst	em Elements						
1	Signaling (ATC)	km	\$845,654	2.33	\$1,971,220	11.67	\$9,867,939
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	2.33	\$1,630,332	11.67	\$8,161,45
3	Wayside Protection System	km	\$67,144	2.33	\$156,512	11.67	\$783,500
	rification Items Traction Power Supply	km	\$432,365	2.33	\$1,007,842	11.67	\$5,045,26
2	Traction Power Supply Traction Power Distribution	km km	\$432,365	2.33	\$1,007,842	11.67	\$5,045,26.
	ram Implementation Costs (PER SCREENING)	KIII	φουυ,∠აპ	2.33	\$1,017,329	11.07	\$7,4U1,93
· Jy	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$23,897,849		\$84,594,92
Cont	ingencies (PER SCREENING)	23.370 UI TUIdI	SSSC & FIOCUICITEIIL		ψ23,071,049		ψυ τ ,υ74,72.
	Contingencies	25% of Total	Construction Cost		\$23,429,264		\$82,936,198
	l Construction				\$86,245,125		\$289,276,20
ota							
	Construction and Right of Way (Includes Environmental Mi	tigation)			\$93,717,056		\$331,744,793

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES		
				I-880 - Trimble Rd. to Diridon		Trimble Rd. Option (Structure)		
	ment Cost			Niles/I-		Niles/I-880		
Tracl	Double Track Section-Total	km		Quantities 8.00	Item Cost	Quantities 10.52	Item Cost	
1	Double Track Section - At Grade	km	\$993,167	0.50	\$496,583	0.65	\$645,558	
2	Double Track Section - On Structure	km	\$1,878,243	6.10	\$11,457,280	6.68	\$12,550,417	
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.70	\$1,314,770	2.62	\$4,911,604	
4	Double Track Section - In Trench	km	\$1,878,243	0.70	\$1,314,770	0.58	\$1,079,989	
	Single Track Section - Total	km		0.00		0.00		
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0	
6	Single Track Section - On Streuture	km	\$939,121	0.00	\$0	0.00	\$0	
7	Single Track Section - In Tunnel or Subway Single Track Section - In Trench	km km	\$939,121 \$939,121	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0	
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0 \$0	
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0	
_	nwork and Related Items		7115/255		**			
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0	
2	Cut	m3	\$9	0	\$0	21,780	\$193,877	
3	Fill	m3	\$9	0	\$0	58,520	\$520,923	
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0	
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0	
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0	
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0	0.00	\$0	
8 Stru	Special Drainage Facilities	5% 01	Earthwork		\$0		\$35,740	
Struc 1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0	
2	High Structure	km	\$15,733,933	6.10	\$100,532,393	6.68	\$110,091,211	
3	Long Span Structure	km	\$37,577,568	0.00	\$100,332,373	0.00	\$110,071,211	
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0	
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0	
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0	
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0	
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0	
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0	
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0	
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0	
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.70	\$33,686,549	2.62	\$126,083,939	
14	Trench Short	km	\$49,668,587	0.70	\$34,768,011	0.58	\$28,559,438	
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0	
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.70	\$1,351,953	2.62	\$5,060,169	
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0	
18 19	Containment Walls	km	\$1,500,559	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0	
	Single Track Cut and Cover Subway e Separations	km	\$30,077,276	0.00	\$0	0.00	\$0	
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	2.00	\$34,334,834	0.00	\$0	
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0	
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0	
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	1.00	\$17,930,413	0.00	\$0	
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0	
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0	
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0	
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0	
	and Utility Relocation							
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0	
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0	
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0	
5	Major Utility Relocation - Urban	km	\$680,338	7.72	\$5,252,212	9.36	\$6,369,872	
7 8	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km	\$273,407	0.31	\$84,756 \$0	0.00	\$0 \$16,197	
	t-of-Way	km	\$13,988	0.00	\$ U	1.16	\$16,187	
Rign 1	Right-of-Way Required for Each Segment							
	Urban	hectare	\$2,737,608	11.74	\$32,139,521	14.23	\$38,956,165	
	Suburban	hectare	\$479,081	0.47	\$225,168	0.00	\$38,730,103	
	Undeveloped	hectare	\$342,201	0.00	\$0	1.76	\$602,274	
Envi	ronmental Mitigation							
	Environmental Mitigation	3% 0	f Line Cost		\$7,959,930		\$9,783,454	
Syste	em Elements							
1	Signaling (ATC)	km	\$845,654	8.00	\$6,765,234	10.52	\$8,897,974	
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	8.00	\$5,595,306	10.52	\$7,359,227	
3	Wayside Protection System	km	\$67,144	8.00	\$537,149	10.52	\$706,486	
	rification Items		# 100 O/F	0.55	#2 4F2 0:=	40 501	64.540.511	
1	Traction Power Supply	km	\$432,365	8.00	\$3,458,917	10.52	\$4,549,340	
2 Drog	Traction Power Distribution	km	\$806,233	8.00	\$6,449,862	10.52	\$8,483,18	
rog	ram Implementation Costs (PER SCREENING)	2E FO/ of T-1-1	Coct 9 Droggerange		677.040.101	1	¢0E 741 F4	
	Program Implementation Costs	25.5% OT 10tal	Cost & Procurement		\$77,942,181		\$95,741,54	
`~-'	ingencies (PER SCREENING)				A77, 140,000		¢02.0/4.2E	
Cont	Contingoncies	2E0/ of Tatal	Construction Cost					
	Contingencies	25% of Total	Construction Cost		\$76,413,903 \$265,330,992		\$93,864,256 \$326,115,133	
Γota	Contingencies Construction Construction and Right of Way (Includes Environmental Mi		Construction Cost		\$76,413,903 \$265,330,992 \$305,655,610		\$326,115,132 \$375,457,025	

	COST ELEMENTS	UNIT	UNIT PRICE	QUANT	ITIES
					–
Δlian	ment Cost		-	Trimble Rd. Op Niles/I-880	
Track			<u> </u>	Quantities	Item Cost
	Double Track Section-Total	km		10.52	
2	Double Track Section - At Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	0.34 4.92	\$332,711 \$9,235,319
3	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km	\$1,878,243	4.92	\$9,231,562
4	Double Track Section - In Trench	km	\$1,878,243	0.36	\$666,776
_	Single Track Section - Total	km	\$407.500	0.00	**
5	Single Track Section - At Grade Single Track Section - On Strcuture	km km	\$496,583 \$939,121	0.00 0.00	\$0 \$0
7	Single Track Section - On Streature Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0
10 Farth	Freight Single Track - At Grade	km	\$496,583	0.00	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0
2	Cut	m3	\$9	4,230	\$37,654
3	Fill	m3	\$9	3,300	\$29,375
5	Borrow Spoil	m3 m3	\$13.35 \$0.00	0.00 0.00	\$0 \$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0
8 Struc	Special Drainage Facilities stures/Tunnels/Walls	5% o	f Earthwork		\$3,351
1	Standard Structure	km	\$13,733,933	0.00	\$0
2	High Structure	km	\$16,480,720	4.92	\$81,085,143
3	Long Span Structure	km	\$37,577,568	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km km	\$23,119,226 \$75,040,254	0.00 0.00	\$0 \$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282 \$94,803,899	0.00 0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined) Crossovers	ea ea	\$94,803,899	0.00	\$0 \$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	4.92	\$236,768,313
14	Trench Short	km	\$49,668,587	0.36	\$17,632,348
15	Trench Long	km	\$39,272,836	0.00	\$0
16 17	Mechanical & Electrical for Tunnels Retaining Walls	km km	\$1,931,362 \$4,399,945	4.92 0.00	\$9,502,302 \$0
18	Containment Walls	km	\$1,500,559	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0
	e Separations		447.447	0.00	
2	Sreet Overcrossing HSR - Urban Sreet Overcrossing HSR - Suburban	EA EA	\$17,167,417 \$6,485,469	0.00 0.00	\$0 \$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0
6 7	Sreet Undercrossing HSR - Undeveloped Street Bridging HSR Trench	EA EA	\$1,157,211 \$0	0.00 0.00	\$0 \$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0
	and Utility Relocation		\$170j00Z	0.00	
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0
2	Single Track Relocation (permanent) Single Track Removal	km	\$1,271,661 \$63,372	0.00	\$0 \$0
3 5	Major Utility Relocation - Urban	km km	\$63,372 \$680,338	0.00 9.36	\$0 \$6,367,967
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0
8	Major Utility Relocation - Undeveloped	km	\$13,988	1.16	\$16,226
Right 1	Pight of Way Poquired for Each Sogmont				
1	Right-of-Way Required for Each Segment Urban	hectare	\$2,737,608	14.23	\$38.956.165
	Suburban	hectare	\$479,081	0.00	\$38,730,103
	Undeveloped	hectare	\$342,201	1.76	\$602,274
Envir	onmental Mitigation Environmental Mitigation	20/ -	of Line Cost		\$12,027,158
Syste	em Elements	3% 0	A FILIC COST		φ12,027,158
1	Signaling (ATC)	km	\$845,654	10.52	\$8,897,974
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	10.52	\$7,359,227
3	Wayside Protection System	km	\$67,144	10.52	\$706,486
_iect	rification Items Traction Power Supply	km	\$432,365	10.52	\$4,549,340
2	Traction Power Distribution	km	\$806,233	10.52	\$8,483,181
	ram Implementation Costs (PER SCREENING)				
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$115,385,167
Conti	Ingencies (PER SCREENING)	2EO/ of Tota	Construction Cost		¢112 122 71
Total	Construction Construction	Z5% 01 10ta	I Construction Cost		\$113,122,713 \$400,905,255
	Construction and Right of Way (Includes Environmental Miti	gation)			\$452,490,852
	d Total				\$680,998,732

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
Aliar	nment Cost		-	Diridon to M Pache		Morgan Hill Pache	
Trac				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		32.50		16.00	
1	Double Track Section - At Grade	km	\$993,167	27.450	\$27,262,430	9.900	\$9,832,352
3	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km km	\$1,878,243 \$1,878,243	5.050 0.000	\$9,485,125 \$0	6.100 0.000	\$11,457,280 \$0
4	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0
	Single Track Section - Total	km	\$1,070,240	0.000	Ψ0	0.000	40
5	Single Track Section - At Grade	km	\$496,583	0.000	\$0	0.000	\$0
6	Single Track Section - On Structure	km	\$939,121	0.000	\$0	0.000	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.000	\$0	0.000	\$0
8	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.000	\$0	0.000	\$0
	Freight Single Track - At Grade nwork and Related Items	km	\$496,583	0.000	\$0	0.000	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	237,380	\$2,113,067	46,480	\$413,747
3	Fill	m3	\$9	0	\$0	141,345	\$1,258,196
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	27.55	\$2,802,740	9.90	\$1,007,155
8 Stru	Special Drainage Facilities	5% of	Earthwork		\$245,790		\$133,955
1	Standard Structure	km	\$13,733,933	0.95	\$13,047,237	6.10	\$83,776,994
2	High Structure	km	\$16,480,720	4.10	\$67,570,953	0.00	\$03,770,774
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9 10	Double Track Drill & Blast Double Track Mined (Soft Soil)	km km	\$83,740,573 \$96,247,282	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	1.20	\$5,279,934	0.00	\$0
18 19	Containment Walls Single Track Cut and Cover Subway	km	\$1,500,559 \$30,077,276	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	le Separations	km	\$30,077,270	0.00	\$0	0.00	\$0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	3.00	\$53,791,239	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	11.00	\$75,536,634	9.00	\$61,802,701
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8 Pail	Minor crossing closure and Utility Relocation	EA	\$178,032	0.00	\$0	0.00	\$0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	13.33	\$9,065,509	4.64	\$3,156,770
7	Major Utility Relocation - Suburban	km	\$273,407	9.43	\$2,576,861	4.00	\$1,093,628
8	Major Utility Relocation - Undeveloped	km	\$13,988	9.75	\$136,386	7.36	\$102,954
	t-of-Way			T		-	
1	Right-of-Way Required for Each Segment Urban	hostore	¢2 727 /00	20.27	\$EE 442 042	7.05	\$10,200,120
	Suburban	hectare hectare	\$2,737,608 \$479,081	20.26 14.33	\$55,463,943 \$6,865,236	7.05 6.08	\$19,300,138 \$2,912,815
	Undeveloped	hectare	\$342,201	14.82	\$5,071,418	11.19	\$3,829,229
Envi	ronmental Mitigation		,				,,/
	Environmental Mitigation	3% 0	f Line Cost		\$10,846,955		\$6,589,460
Syst	em Elements						
1	Signaling (ATC)	km	\$845,654	32.50	\$27,483,763	16.00	\$13,530,468
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	32.50	\$22,730,932	16.00	\$11,190,612
3 Flact	Wayside Protection System rification Items	km	\$67,144	32.50	\$2,182,169	16.00	\$1,074,299
1	Traction Power Supply	km	\$432,365	32.50	\$14,051,849	16.00	\$6,917,833
2	Traction Power Distribution	km	\$806,233	32.50	\$26,202,565	16.00	\$12,899,724
Prog	ram Implementation Costs (PER SCREENING)	MIII	\$000,200	52.50	\$20,202,000	10.00	ψ.2 ₁ 077,12
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$112,152,247		\$64,331,479
Cont	ingencies (PER SCREENING)						
	Contingencies	25% of Total	Construction Cost		\$109,953,184		\$63,070,077
	Construction				\$361,565,182		\$219,648,667
	Construction and Right of Way (Includes Environmental Mit	igation)			\$439,812,734		\$252,280,309
Gran	d Total				\$661,918,165		\$379,681,864

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				Gilroy to San L	uis Reservoir	San Luis Reser Flo	•
,	ment Cost			Pache		Pache	
Track	Double Track Section-Total	km		Quantities 44.00	Item Cost	Quantities 15.45	Item Cost
1	Double Track Section - At Grade	km	\$993,167	24.350	\$24,183,613	15.450	\$15,344,428
2	Double Track Section - On Structure	km	\$1,878,243	3.500	\$6,573,849	0.000	\$13,344,420
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	16.150	\$30,333,617	0.000	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.000	\$0	0.000	\$0
_	Single Track Section - Total	km	A 10 / F00	0.000	40	0.000	***
5 6	Single Track Section - At Grade Single Track Section - On Structure	km km	\$496,583 \$939,121	0.000 0.000	\$0 \$0	0.000	\$0 \$0
7	Single Track Section - On Structure Single Track Section - In Tunnel or Subway	km	\$939,121	0.000	\$0 \$0	0.000	\$0 \$0
8	Single Track Section - In Trench	km	\$939,121	0.000	\$0	0.000	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.000	\$0	0.000	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.000	\$0	0.000	\$0
Earth	work and Related Items	hostoro	¢12.001	0.00	¢0	0.00	\$0
2	Site Preparation - Undeveloped Cut	hectare m3	\$12,081 \$9	0.00 30,335,213	\$0 \$270,032,642	0.00 16,308,730	\$145,174,178
3	Fill	m3	\$9	11,652,418	\$103,725,436	5,129,485	\$45,660,743
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	24.35	\$2,477,195	15.45	\$1,571,772
Struc	Special Drainage Facilities	5% of	Earthwork		\$18,811,764		\$9,620,335
1	Standard Structure	km	\$13,733,933	0.45	\$6,180,270	0.00	\$0
2	High Structure	km	\$16,480,720	3.05	\$50,266,196	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.10	\$2,887,673
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.10	\$2,311,923
6	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	16.15 0.00	\$895,752,244 \$0	0.00 0.00	\$0 \$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587 \$39,272,836	0.00	\$0 \$0	0.00	\$0
15 16	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836	0.00 16.15	\$0 \$31,191,498	0.00 0.00	\$0 \$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	e Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Suburban Sreet Overcrossing HSR - Undeveloped	EA EA	\$6,485,469 \$1,093,628	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	4.00	\$27,467,867	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	6.00	\$6,943,266	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail a	and Utility Relocation Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0 \$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	4.84	\$3,292,838	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	1.76	\$481,196	0.00	\$0
8	Major Utility Relocation - Undeveloped	km	\$13,988	37.40	\$523,161	15.45	\$216,119
_	t-of-Way Right-of-Way Required for Each Segment			ı			
1	Urban Right-of-way Required for Each Segment	hectare	\$2,737,608	7.36	\$20,148,797	0.00	\$0
	Suburban	hectare	\$2,737,608	2.68	\$1,283,938	0.00	\$0 \$0
	Undeveloped	hectare	\$342,201	56.85	\$19,454,125	23.48	\$8,034,879
Envir	onmental Mitigation						
	Environmental Mitigation	3% 0	f Line Cost		\$48,110,167		\$8,004,965
_	em Elements Signaling (ATC)	lem	ÇOAE ŁEA	44.00	\$27.200.707	15 45	\$12 D4E 2E0
2	Signaling (ATC) Communications (w/Fiber Optic Backbone)	km km	\$845,654 \$699,413	44.00 44.00	\$37,208,786 \$30,774,184	15.45 15.45	\$13,065,358 \$10,805,939
3	Wayside Protection System	km	\$67,144	44.00	\$2,954,322	15.45	\$1,037,370
	rification Items	1			. //		. ,,,,,,,,
1	Traction Power Supply	km	\$432,365	44.00	\$19,024,041	15.45	\$6,680,033
2	Traction Power Distribution	km	\$806,233	44.00	\$35,474,241	15.45	\$12,456,290
Prog	ram Implementation Costs (PER SCREENING)	OF 504 6 T : 1	Cont o Don	П	6404 (00 (15		#70 400 ° : :
Cont	Program Implementation Costs ingencies (PER SCREENING)	25.5% of Total	Cost & Procurement		\$431,630,660		\$72,132,362
CONT	Contingencies Contingencies	25% of Total	Construction Cost		\$423,167,313	1	\$70,718,00
		2370 01 10101	CONSTITUCTION COST		\$1,603,672,227		\$266,832,163
Total	Construction				\$1,003,072.271		\$200,032,10.
	Construction Construction and Right of Way (Includes Environmental Mit	igation)			\$1,692,669,253		\$282,872,000

Track				Western Valley t		l	
Track		Wester		UP Wye		UP South Wye	
	ent Cost			HM-		HM-2	
	Double Track Section-Total	km		Quantities 58.05	Item Cost	Quantities 8.19	Item Cost
1	Double Track Section - At Grade	km	\$993.167	52.90	\$52,534,554	7.99	\$7,934,410
2	Double Track Section - On Structure	km	\$1,878,243	5.15	\$9,672,949	0.20	\$375,649
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Structure	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
9	Single Track Section - In Trench Freight Double Track - At Grade	km	\$939,121	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km km	\$993,167 \$496,583	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	ork and Related Items	NIII	\$470,303	0.00	φ0	0.00	\$0
	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
	Cut	m3	\$9	1,192,739	\$10,617,314	150,980	\$1,343,964
3 F	-ill	m3	\$9	1,192,739	\$10,617,314	150,980	\$1,343,964
	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
	Fencing (Both Sides of R/W)	km	\$101,733	52.90	\$5,381,260	8.00	\$813,863
	Special Drainage Facilities res/Tunnels/Walls	5% 01	f Earthwork		\$1,330,794		\$175,090
	Standard Structure	km	\$13,733,933	5.15	\$70,729,757	0.00	\$0
	High Structure	km	\$15,733,933	0.00	\$10,729,737	0.00	\$0 \$0
	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
	Waterway Crossing - Primary	km	\$28,876,734	0.60	\$17,326,041	0.20	\$5,775,347
	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.05	\$1,155,961	0.00	\$0
6 1	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
	Seismic Chamber (Drill & Blast/Mined) Crossovers	ea	\$94,803,899 \$94,803,899	0.00 0.00	\$0 \$0	0.00	\$0 \$0
	Cut & Cover Double Track Tunnel	ea km	\$48,123,641	0.00	\$0 \$0	0.00	\$0 \$0
	French Short	km	\$49,668,587	0.00	\$0	0.00	\$0
	French Long	km	\$39,272,836	0.00	\$0	0.00	\$0
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
	Separations						
	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
	Sreet Overcrossing HSR - Suburban	EA EA	\$6,485,469	0.00 0.00	\$0 \$0	0.00	\$0 \$0
	Sreet Overcrossing HSR - Undeveloped Sreet Undercrossing HSR - Urban	EA	\$1,093,628 \$17,930,413	0.00	\$0 \$0	0.00	\$0 \$0
	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0 \$0	1.00	\$6,866,967
	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	25.00	\$28,930,276	6.00	\$6,943,266
	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail and	d Utility Relocation						
	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
	Major Utility Relocation - Urban	km	\$680,338	0.72	\$489,844	0.00	\$0 \$0
	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	0.05 57.47	\$13,670 \$803,906	0.00 8.19	\$0 \$114,564
Right-o		NIII	\$13,700	37.47	ψυυυ, τυυ	0.17	ψ114,004
	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	1.09	\$2,983,993	0.00	\$0
	Suburban	hectare	\$479,081	0.08	\$38,327	0.00	\$0
	Undeveloped	hectare	\$342,201	87.35	\$29,891,254	12.45	\$4,260,402
Environ	mental Mitigation						
C/	Environmental Mitigation	3% 0	f Line Cost		\$11,252,450		\$1,650,971
	Elements Signaling (ATC)	Irma	¢04E / E4	F0.05	\$40,007,047	0.10	\$6,925,063
2	Signaling (ATC) Communications (w/Fiber Optic Backbone)	km km	\$845,654 \$699,413	58.05 58.05	\$49,086,846 \$40,598,143	8.19 8.19	\$6,925,063 \$5,727,495
3	Wayside Protection System	km	\$67,144	58.05	\$3,897,422	8.19	\$5,727,495 \$549,840
	ication Items	KIII	Ψ07,144	30.00	Ψ5,071,722	0.17	ψ347,04C
1	Traction Power Supply	km	\$432,365	58.05	\$25,097,034	8.19	\$3,540,633
2	Traction Power Distribution	km	\$806,233	58.05	\$46,798,587	8.19	\$6,602,240
Progran	n Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$106,908,163		\$15,540,650
	encies (PER SCREENING)						
Conting	0 11 1	250/ -6 T-4-1	O	1	\$104,811,924		\$15,235,931
	Contingencies	25% OF TOTAL	Construction Cost				
Total Co	onstruction		Construction Cost		\$375,081,673		\$55,032,353
Total Co	onstruction onstruction and Right of Way (Includes Environmental Miti		Construction Cost				

COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
			Henry Miller UP	-	Henry Miller W BNS	•
Alignment Cost			HM-		HM/BN	
Track			Quantities	Item Cost	Quantities	Item Cost
Double Track Section-Total	km		4.62		8.70	
1 Double Track Section - At Grade 2 Double Track Section - On Structure	km km	\$993,167 \$1,878,243	4.42 0.20	\$4,384,832 \$375,649	8.50 0.20	\$8,437,946 \$375,649
3 Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.20	\$375,649	0.00	\$375,049
4 Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0 \$0
Single Track Section - Total	km	\$170707£10	0.00	40	0.00	\$ 0
5 Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6 Single Track Section - On Structure	km	\$939,121	0.00	\$0	0.00	\$0
7 Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8 Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9 Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10 Freight Single Track - At Grade Earthwork and Related Items	km	\$496,583	0.00	\$0	0.00	\$0
1 Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2 Cut	m3	\$12,001	75,490	\$671,982	1,236,391	\$11,005,885
3 Fill	m3	\$9	75,490	\$671,982	1,236,391	\$11,005,885
4 Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5 Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6 Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7 Fencing (Both Sides of R/W)	km	\$101,733	4.42	\$449,150	8.50	\$864,322
8 Special Drainage Facilities	5% of	Earthwork		\$89,656		\$1,143,805
Structures/Tunnels/Walls	Long	\$13.733.933	0.00	40	0.00	**
1 Standard Structure 2 High Structure	km km	\$13,733,933 \$16,480,720	0.00	\$0 \$0	0.00 0.00	\$0 \$0
3 Long Span Structure	km	\$16,480,720	0.00	\$0	0.00	\$0 \$0
4 Waterway Crossing - Primary	km	\$28,876,734	0.30	\$8,663,020	0.20	\$5,775,347
5 Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0,003,020	0.00	\$5,775,547
6 Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7 Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8 Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9 Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10 Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11 Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12 Crossovers 13 Cut & Cover Double Track Tunnel	ea km	\$94,803,899	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
14 Trench Short	km	\$48,123,641 \$49,668,587	0.00	\$0 \$0	0.00	\$0 \$0
15 Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16 Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17 Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18 Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19 Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grade Separations						
1 Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2 Sreet Overcrossing HSR - Suburban 3 Sreet Overcrossing HSR - Undeveloped	EA EA	\$6,485,469 \$1,093,628	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4 Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0 \$0
5 Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0 \$0
6 Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	4.00	\$4.628.844	5.00	\$5,786,055
7 Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8 Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail and Utility Relocation						
1 Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2 Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3 Single Track Removal 5 Major Utility Relocation - Urban	km	\$63,372	0.00	\$0	0.00	\$0
5 Major Utility Relocation - Urban 7 Major Utility Relocation - Suburban	km km	\$680,338 \$273,407	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
8 Major Utility Relocation - Suburban 8 Major Utility Relocation - Undeveloped	km	\$13,988	4.62	\$64,626	8.70	\$121,698
Right-of-Way	KIII	\$15,700	7.02	\$04,020	0.70	Ψ121,070
Right-of-Way Required for Each Segment						
	hectare	\$2,737,608	0.00	\$0	0.00	\$0
Urban			0.00	\$0	0.00	\$0
Urban Suburban	hectare	\$479,081				\$4,523,897
Urban Suburban Undeveloped		\$342,201	7.02	\$2,402,251	13.22	\$4,323,077
Urban Suburban Undeveloped Environmental Mitigation	hectare hectare	\$342,201			13.22	
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation	hectare hectare			\$2,402,251 \$994,687	13.22	\$2,079,217
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation System Elements	hectare hectare	\$342,201 f Line Cost	7.02	\$994,687		\$2,079,217
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation System Elements 1 Signaling (ATC)	hectare hectare 3% o	\$342,201 f Line Cost \$845,654	7.02	\$994,687 \$3,902,694	8.70	\$2,079,217 \$7,353,809
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation System Elements 1 Signaling (ATC) 2 Communications (w/Fiber Optic Backbone)	hectare hectare 3% o	\$342,201 f Line Cost \$845,654 \$699,413	7.02 4.62 4.62	\$994,687 \$3,902,694 \$3,227,792	8.70 8.70	\$2,079,217 \$7,353,809 \$6,082,098
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation Environmental Mitigation System Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System	hectare hectare 3% o	\$342,201 f Line Cost \$845,654	7.02	\$994,687 \$3,902,694	8.70	\$2,079,217 \$7,353,809
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation System Elements 1 Signaling (ATC) 2 Communications (w/Fiber Optic Backbone)	hectare hectare 3% o	\$342,201 f Line Cost \$845,654 \$699,413	7.02 4.62 4.62	\$994,687 \$3,902,694 \$3,227,792	8.70 8.70	\$2,079,217 \$7,353,809 \$6,082,098
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation System Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System Electrification I tems	hectare hectare 3% o km km km	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144	7.02 4.62 4.62 4.62	\$994,687 \$3,902,694 \$3,227,792 \$309,868	8.70 8.70 8.70	\$2,079,217 \$7,353,809 \$6,082,098 \$583,881
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation Environmental Mitigation System Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System Electrification I tems Traction Power Supply Traction Power Distribution Program Implementation Costs (PER SCREENING)	hectare hectare 3% o km km km	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	7.02 4.62 4.62 4.62 4.62	\$994,687 \$3,902,694 \$3,227,792 \$309,868 \$1,995,362 \$3,720,764	8.70 8.70 8.70	\$2,079,217 \$7,353,809 \$6,082,098 \$583,881 \$3,759,842 \$7,011,000
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation Environmental Mitigation System Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System Electrification Items Traction Power Supply Traction Power Distribution Program Implementation Costs (PER SCREENING) Program Implementation Costs	hectare hectare 3% o km km km	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365	7.02 4.62 4.62 4.62 4.62	\$994,687 \$3,902,694 \$3,227,792 \$309,868 \$1,995,362	8.70 8.70 8.70	\$2,079,217 \$7,353,809 \$6,082,098 \$583,881 \$3,759,842 \$7,011,000
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation Environmental Mitigation System Elements 1 Signaling (ATC) 2 Communications (w/Fiber Optic Backbone) 3 Wayside Protection System Electrification Items 1 Traction Power Supply 2 Traction Power Distribution Program Implementation Costs (PER SCREENING) Program Implementation Costs Contingencies (PER SCREENING)	hectare hectare 3% o km km km km km km compared to the comp	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233 Cost & Procurement	7.02 4.62 4.62 4.62 4.62	\$994,687 \$3,902,694 \$3,227,792 \$309,868 \$1,995,362 \$3,720,764 \$9,321,056	8.70 8.70 8.70	\$2,079,217 \$7,353,809 \$6,082,098 \$583,881 \$3,759,842 \$7,011,000 \$19,357,135
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation Environmental Mitigation Environmental Mitigation System Elements 1 Signaling (ATC) 2 Communications (w/Fiber Optic Backbone) 3 Wayside Protection System Electrification I tems 1 Traction Power Supply 2 Traction Power Distribution Program Implementation Costs (PER SCREENING) Program Implementation Costs Contingencies (PER SCREENING) Contingencies	hectare hectare 3% o km km km km km km compared to the comp	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	7.02 4.62 4.62 4.62 4.62	\$994,687 \$3,902,694 \$3,227,792 \$309,868 \$1,995,362 \$3,720,764 \$9,321,056 \$9,138,290	8.70 8.70 8.70	\$2,079,217 \$7,353,809 \$6,082,098 \$583,881 \$3,759,842 \$7,011,000 \$19,357,135
Urban Suburban Undeveloped Environmental Mitigation Environmental Mitigation Environmental Mitigation System Elements 1 Signaling (ATC) 2 Communications (w/Fiber Optic Backbone) 3 Wayside Protection System Electrification Items 1 Traction Power Supply 2 Traction Power Distribution Program Implementation Costs (PER SCREENING) Program Implementation Costs Contingencies (PER SCREENING)	hectare hectare 3% of km km km km km 25.5% of Total	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233 Cost & Procurement	7.02 4.62 4.62 4.62 4.62	\$994,687 \$3,902,694 \$3,227,792 \$309,868 \$1,995,362 \$3,720,764 \$9,321,056	8.70 8.70 8.70	\$2,079,217 \$7,353,809 \$6,082,098 \$583,881 \$3,759,842

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				Henry Miller W BNS	-	Henry Miller W UPR	
Align	ment Cost			HM/BN	-XS	HM/UF	P-XS
Track		Long		Quantities	Item Cost	Quantities	Item Cost
1	Double Track Section-Total Double Track Section - At Grade	km km	\$993.167	9.70 9.70	\$9,633,718	7.95 7.75	\$7,697,043
2	Double Track Section - At Glade Double Track Section - On Structure	km	\$1,878,243	0.00	\$9,033,718	0.20	\$375,649
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Structure	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121 \$939,121	0.00	\$0 \$0	0.00	\$0 \$0
8	Single Track Section - In Trench Freight Double Track - At Grade	km km	\$939,121	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	90,588	\$806,378	93,533	\$832,596
3	Fill	m3	\$9	90,588	\$806,378	72,120	\$641,985
4 5	Borrow Spoil	m3 m3	\$13.35 \$0.00	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	9.70	\$986,809	7.55	\$768,083
8	Special Drainage Facilities		Earthwork		\$129,978		\$112,133
Struc	tures/Tunnels/Walls		-				
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.00 0.00	\$0 \$0	0.00 0.20	\$0 \$5,775,347
5	Waterway Crossing - Frinary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$5,775,347
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12 13	Crossovers Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0 \$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
1	e Separations Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	4.00	\$4,628,844	7.00	\$8,100,477
7	Street Bridging HSR Trench	EA	\$0 ¢170.033	0.00	\$0	0.00	\$0
8 Pail s	Minor crossing closure and Utility Relocation	EA	\$178,032	0.00	\$0	0.00	\$0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	0.49	\$133,969	0.00	\$0
8 Diabt	Major Utility Relocation - Undeveloped	km	\$13,988	9.22	\$128,972	7.95	\$111,207
Right	t-of-Way Right-of-Way Required for Each Segment						
- 1	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	0.74	\$354,520	0.00	\$0
	Undeveloped	hectare	\$342,201	14.01	\$4,794,235	12.08	\$4,133,788
Envir	onmental Mitigation						
	Environmental Mitigation	3% 0	f Line Cost		\$1,347,237		\$1,412,353
		lem	\$845,654	9.70	\$8,202,846	7.95	\$6,722,951
Syste	em Elements Signaling (ATC)		\$699,413	9.70	\$6,784,309	7.95	\$5,722,951
Syste	Signaling (ATC)	km km			40,10-T,007		\$533,792
Syste		km km	\$67,144	9.70	\$651,294	7.95	\$JJJ.177
1 2 3	Signaling (ATC) Communications (w/Fiber Optic Backbone)	km			\$651,294	7.95	\$333,172
Syste 1 2 3 Elect	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply	km km	\$67,144 \$432,365	9.70	\$4,193,936	7.95	\$3,437,298
Syste 1 2 3 Elect 1 2	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution	km km	\$67,144	9.70			
Syste 1 2 3 Elect 1 2	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING)	km km km km	\$67,144 \$432,365 \$806,233	9.70	\$4,193,936 \$7,820,458	7.95	\$3,437,298 \$6,409,550
Syste 1 2 3 Elect 1 2 Progi	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs	km km km km	\$67,144 \$432,365	9.70	\$4,193,936	7.95	\$3,437,298
Syste 1 2 3 Elect 1 2 Progi	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km km km km 25.5% of Total	\$67,144 \$432,365 \$806,233 Cost & Procurement	9.70	\$4,193,936 \$7,820,458 \$13,107,990	7.95	\$3,437,298 \$6,409,550 \$13,419,270
Syste 1 2 3 Elect 1 2 Progi	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs	km km km km 25.5% of Total	\$67,144 \$432,365 \$806,233	9.70	\$4,193,936 \$7,820,458	7.95	\$3,437,298 \$6,409,550 \$13,419,270 \$13,156,147
Syste 1 2 3 Elect 1 2 Progr	Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING) Contingencies	km km km km 25.5% of Total	\$67,144 \$432,365 \$806,233 Cost & Procurement	9.70	\$4,193,936 \$7,820,458 \$13,107,990 \$12,850,971	7.95	\$3,437,298 \$6,409,550

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN'	TITIES	
				Hnery Miller V	/ye North to	San Luis Reserv	oir to Atwater
				UPR		Wy	
_	nment Cost			HM/UI		GEA	
Tracl	Double Track Section-Total	km		Quantities 11.25	Item Cost	Quantities 57.00	Item Cost
1	Double Track Section - At Grade	km	\$993,167	10.45	\$10,378,594	51.45	\$51,098,435
2	Double Track Section - On Structure	km	\$1,878,243	0.80	\$1,502,594	2.15	\$4,038,222
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	3.40	\$6,386,025
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km km	\$496.583	0.00	\$0	0.00 0.00	\$0
6	Single Track Section - At Grade Single Track Section - On Structure	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10 Earth	Freight Single Track - At Grade hwork and Related Items	km	\$496,583	0.00	\$0	0.00	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	65,177	\$580,181	8,084,648	\$71,966,493
3	Fill	m3	\$9	99,970	\$889,895	3,942,381	\$35,093,591
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
7	Cut/Fill Slopes (Landscaping/Erosion Control) Fencing (Both Sides of R/W)	hectare km	\$8,075 \$101,733	0.00 10.45	\$0 \$1,063,108	0.00 1.70	\$0 \$172,946
8	Special Drainage Facilities		Earthwork	10.45	\$1,003,108	1.70	\$5,361,652
	ctures/Tunnels/Walls	2,3 61			,,		,
1	Standard Structure	km	\$13,733,933	0.00	\$0	1.40	\$19,227,507
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure Waterway Crossing Primary	km	\$37,577,568	0.00	\$0	0.00	\$0 \$21,657,551
5	Waterway Crossing - Primary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km km	\$28,876,734 \$23,119,226	0.80 0.00	\$23,101,387 \$0	0.75 0.10	\$21,657,551 \$2,311,923
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km ea	\$96,247,282 \$94,803,899	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
12	Crossovers	ea	\$94,803,899	0.00	\$0 \$0	0.00	\$0 \$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16 17	Mechanical & Electrical for Tunnels	km	\$1,931,362 \$4,399,945	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
18	Retaining Walls Containment Walls	km km	\$1,500,559	0.00	\$0 \$0	0.00	\$0 \$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	le Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped Sreet Undercrossing HSR - Urban	EA EA	\$1,093,628 \$17,930,413	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0 \$0	0.00	\$0 \$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	9.00	\$10,414,900	33.00	\$38,187,965
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation	Luca	\$1.071.//1	0.00	ΦΩ.	0.00	**
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km km	\$1,271,661 \$1,271,661	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	0.00	\$0
8	Major Utility Relocation - Undeveloped	km	\$13,988	11.25	\$157,368	57.00	\$797,331
Righ 1	t-of-Way Right-of-Way Required for Each Segment		T	T		T	
	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	0.00	\$0	0.00	\$0
	Undeveloped	hectare	\$342,201	17.10	\$5,851,636	86.64	\$29,648,291
Envi	ronmental Mitigation						
C	Environmental Mitigation	3% 0	f Line Cost		\$2,408,588		\$12,563,872
Syste	em Elements Signaling (ATC)	km	\$845,654	11.25	\$9,513,610	57.00	\$48,202,291
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	11.25	\$7,868,399	57.00	\$39,866,557
3	Wayside Protection System	km	\$67,144	11.25	\$755,366		\$3,827,189
Elect	rification Items						
1	Traction Power Supply	km	\$432,365	11.25	\$4,864,101	57.00	\$24,644,781
Drog	Traction Power Distribution	km	\$806,233	11.25	\$9,070,119	57.00	\$45,955,267
Prog	ram Implementation Costs (PER SCREENING) Program Implementation Costs	25 5% of Total	Cost & Procurement		\$22,579,359		\$117,557,011
Cont	ingencies (PER SCREENING)	25.5 % UI 10tal	COSE & FIOCUIEITEM		φ∠∠,317,359		\$117,007,UTI
	Contingencies	25% of Total	Construction Cost		\$22,136,627		\$115,251,972
	l Construction			<u> </u>	\$80,286,282	<u> </u>	\$418,795,724
	I Construction and Right of Way (Includes Environmental Mit	igation)			\$88,546,507		\$461,007,887
	nd Total				\$133,262,493		\$693,816,870

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				OFA 146 N	Al- A- DNICE	OFA 146 C	AL A- DNICE
Aliar	nment Cost			GEA Wye Nor GEA-BN		GEA Wye Sou GEA-UPF	
Tracl	k			Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		11.10		12.15	
2	Double Track Section - At Grade	km	\$993,167	11.00 0.10	\$10,924,835 \$187,824	11.70 0.45	\$11,620,052 \$845,209
3	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km km	\$1,878,243 \$1,878,243	0.10	\$187,824	0.45	\$845,209
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0 \$0
	Single Track Section - Total	km	\$1,070,240	0.00	Ψ0	0.00	***
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Structure	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
1	hwork and Related Items Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$12,081	214,888	\$1,912,852	183,325	\$1,631,890
3	Fill	m3	\$9	72,389	\$644,380	143,805	\$1,280,098
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	3.85	\$391,671	1.65	\$167,859
8	Special Drainage Facilities	5% of	Earthwork		\$147,445		\$153,992
	ctures/Tunnels/Walls		#40 700 00C	0.00	**	2.00	
1	Standard Structure	km	\$13,733,933	0.00	\$0 \$0	0.00	\$0 \$0
3	High Structure Long Span Structure	km km	\$16,480,720 \$37,577,568	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00 _	\$2,887,673	0.45	\$12,994,530
5	Waterway Crossing - Frinally Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$2,007,073	0.00	\$12,774,550
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13 14	Cut & Cover Double Track Tunnel Trench Short	km km	\$48,123,641 \$49,668,587	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0 \$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	10.05	\$44,219,451
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	le Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Urban	EA EA	\$17,930,413	0.00 23.00	\$0	0.00 11.00	\$0 \$75,536,634
6	Sreet Undercrossing HSR - Suburban Sreet Undercrossing HSR - Undeveloped	EA	\$6,866,967 \$1,157,211	23.00 _	\$157,940,235 \$2,314,422	2.00	\$2,314,422
7	Street Bridging HSR Trench	EA	\$1,137,211	0.00	\$2,314,422	0.00	\$2,314,422
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation		*		7.7		**
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	2.55	\$1,734,863	0.00	\$0
7 8	Major Utility Relocation - Suburban	km	\$273,407	1.44	\$393,706 \$100,995	5.92	\$1,618,569
	Major Utility Relocation - Undeveloped	km	\$13,988	7.22	\$100,995	6.68	\$93,442
Rign 1	t-of-Way Right-of-Way Required for Each Segment			T			
	Urban	hectare	\$2,737,608	3.88	\$10,621,920	0.00	\$0
	Suburban	hectare	\$479,081	2.19	\$1,049,188	8.99	\$4,306,941
	Undeveloped	hectare	\$342,201	10.97	\$3,753,945	10.16	\$3,476,762
Envi	ronmental Mitigation						· · · · · · · · · · · · · · · · · · ·
	Environmental Mitigation	3% o	f Line Cost		\$6,336,746		\$5,613,404
_	em Elements		***************************************		40.001.71		440.00
1	Signaling (ATC)	km	\$845,654	11.10	\$9,386,762	12.15	\$10,274,699
2	Communications (w/Fiber Optic Backbone)	km	\$699,413 \$67,144	11.10	\$7,763,487	12.15	\$8,497,871
3 Floct	Wayside Protection System trification Items	km	\$67,144	11.10	\$745,295	12.15	\$815,796
1	Traction Power Supply	km	\$432,365	11.10	\$4,799,247	12.15	\$5,253,230
2	Traction Power Distribution	km	\$806,233	11.10	\$8,949,184	12.15	\$9,795,728
Proa	ram Implementation Costs (PER SCREENING)		+500,200		+=,,,,,,,,,	12.10	.,,,,,,,,,,
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$59,411,602		\$51,130,198
Cont	ingencies (PER SCREENING)						
	Contingencies	25% of Total	Construction Cost		\$58,246,669		\$50,127,645
Tota	I Construction				\$211,224,877		\$187,113,473
	I Construction and Right of Way (Includes Environmental Mit	tigation)			\$232,986,676		\$200,510,580
	id Total	ilgation)			\$350,644,947		\$301,768,423

High-Speed Train Alignment Alternatives East Bay to Central Valley Segment Breakdown

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				Chilman A - NIII	0	NIII - O	
Alian	ment Cost			Shinn to Nil		Niles Canyor UPRR	
Track				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		4.50		0.52	
1	Double Track Section - At Grade	km	\$993,167	1.90	\$1,887,017	0.00	\$0
2	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km	\$1,878,243 \$1,878,243	2.60	\$4,883,431	0.00 0.00	\$0 \$0
4	Double Track Section - In Trunnel of Subway Double Track Section - In Trench	km km	\$1,878,243	0.00	\$0 \$0	0.00	\$976,686
4	Single Track Section - Total	km	\$1,070,243	0.00	\$0	0.70	\$970,000
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strouture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	1.40	\$1,314,770
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	work and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	1,333,260.00	\$11,868,179	463,412.00	\$4,125,119
3	Fill Borrow	m3 m3	\$9 \$13.35	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
5	Spoil	m3	\$0.00	0.00	\$0 \$0	0.00	\$0 \$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0 \$0	0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	km	\$101,733	1.90	\$193,292	0.00	\$0 \$0
8	Special Drainage Facilities		Earthwork		\$603,074	0.00	\$206,256
	tures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	2.60	\$35,708,227	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643 \$83,740,573	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km		0.00	\$0	0.00	\$0
11	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km	\$96,247,282 \$94,803,899	0.00 0.00	\$0 \$0	0.70 0.00	\$67,373,097
12	Crossovers	ea ea	\$94,803,899	0.00	\$0 \$0	0.00	\$0 \$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0 \$0	0.00	\$0 \$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.70	\$1,351,953
17	Retaining Walls	km	\$4,399,945	0.00	\$0	1.04	\$4,575,943
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	e Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Street Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench Minor crossing closure	EA EA	\$0 \$178,032	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	and Utility Relocation	EA	\$170,032	0.00	\$0	0.00	\$0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0 \$0	0.00	\$0 \$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.45	\$306,152	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	1.76	\$479,829	0.13	\$34,586
8	Major Utility Relocation - Undeveloped	km	\$13,988	1.85	\$25,808	1.02	\$14,317
Right	-of-Way						
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.69	\$1,877,452	0.00	\$0
	Suburban	hectare	\$479,081	3.02	\$1,445,867	0.19	\$92,463
Facilities.	Undeveloped	hectare	\$342,201	3.16	\$1,079,644	1.56	\$533,833
⊏nvir	onmental Mitigation	20/ -	f Line Cost	T	\$2.042.500		¢2 EA2 E21
Systa	Environmental Mitigation em Elements	3% 0	f Line Cost		\$2,063,509		\$2,503,521
Jysie	Signaling (ATC)	km	\$845,654	4.500	\$3,805,444	1.220	\$1,031,698
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	4.500	\$3,147,360	1.220	\$853,284
3	Wayside Protection System	km	\$67,144	4.500	\$302,147	1.220	\$81,915
	rification Items		+=////		+===	1,223	13.17.10
1	Traction Power Supply	km	\$432,365	4.500	\$1,945,641	1.220	\$527,485
2	Traction Power Distribution	km	\$806,233	4.500	\$3,628,047	1.220	\$983,604
	ram Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$19,188,781		\$22,078,036
Conti	ngencies (PER SCREENING)						
Ī	Contingencies	25% of Total	Construction Cost		\$18,812,530		\$21,645,133
	Construction				\$68,783,647		\$83,450,714
Total	Construction Construction and Right of Way (Includes Environmental Miti d Total	igation)			\$75,250,120 \$113,251,431		\$86,580,532 \$130,303,700

High-Speed Train Alignment Alternatives East Bay to Central Valley Segment Breakdown

COST ELEMENTS UNIT			UNIT PRICE	QUANTITIES			
Alignment Cost			-	Niles Canyon to Sunol		Sunol to P	
rac				UPRR 2B Quantities Item Cost		UPRR 3 Quantities Item Cost	
	Double Track Section-Total	km		0.00		2.70	
1	Double Track Section - At Grade	km	\$993,167	0.00	\$0	1.80	\$1,790,68
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.90	\$1,683,99
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$
	Single Track Section - Total	km		5.05		0.60	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$
7	Single Track Section - In Tunnel or Subway	km	\$939,121	10.10	\$9,485,125	1.20	\$1,123,65
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$
art	hwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	
2	Cut	m3	\$9	376,269.00	\$3,349,405	0.00	
3	Fill	m3	\$9	0.00	\$0	0.00	
4	Borrow	m3	\$13.35	0.00	\$0	0.00	
5	Spoil	m3	\$0.00	0.00	\$0	0.00	5
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0	0.00	
3	Special Drainage Facilities	5% 0	f Earthwork		\$167,470		
ru	ctures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.77	\$10,528,1
2	High Structure	km	\$16,480,720	0.00	\$0	0.13	\$2,142,4
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	
1	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	
ò	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	5.05	\$280,095,903	0.00	
3	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	
)	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	
0	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.60	\$57,748,3
1	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	
2	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	
3	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	
4	Trench Short	km	\$49,668,587	0.00	\$0	0.00	
5	Trench Long	km	\$39,272,836	0.00	\$0	0.00	
6		km	\$1,931,362	5.05	\$9,753,379	0.60	\$1,158,8
7	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	
8	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	
9	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	
ac	de Separations	<u> </u>					
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	
1	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	
5	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	1.00	\$1,157,2
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	
3	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	
	and Utility Relocation	<u> </u>					
	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	1.58	\$1,074,9
7	Major Utility Relocation - Suburban	km	\$273,407	0.26	\$71,086	0.73	\$199,5
3	Major Utility Relocation - Undeveloped	km	\$13,988	4.80	\$67,144	0.96	\$13,4
gh	nt-of-Way	,					
Ī	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.00	\$0	2.40	\$6,570,2
	Suburban	hectare	\$479,081	0.40	\$191,633	1.10	\$526,9
	Undeveloped	hectare	\$342,201	7.29	\$2,494,645	1.45	\$496,1
vi	ironmental Mitigation						
	Environmental Mitigation	3% c	of Line Cost		\$9,521,583		\$2,640
st	tem Elements						
	Signaling (ATC)	km	\$845,654	5.050	\$4,270,554	3.298	\$2,788
!	Communications (w/Fiber Optic Backbone)	km	\$699,413	5.050	\$3,532,037	3.298	\$2,306
	Wayside Protection System	km	\$67,144	5.050	\$339,076	3.298	\$221
ec.	trification Items						
	Traction Power Supply	km	\$432,365	5.050	\$2,183,441	3.298	\$1,425
	Traction Power Distribution	km	\$806,233	5.050	\$4,071,475	3.298	\$2,658
	gram Implementation Costs (PER SCREENING)	<u> </u>					. ,
_	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$84,046,458		\$25,055
nt	tingencies (PER SCREENING)						,
	Contingencies	25% of Total	I Construction Cost		\$82,398,489		\$24,564
a	al Construction				\$317,386,094		\$88,022
	al Construction and Right of Way (Includes Environmental Miti				\$329,593,955		\$98,256
ta		dation)					

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				Di		FI Ob t-	
Alian	ment Cost			Pleasa UPR		El Charo to UPR	
Track				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		2.59		6.41	
1	Double Track Section - At Grade	km	\$993,167	0.67	\$669,951	6.41	\$6,361,671
2	Double Track Section - On Structure	km	\$1,878,243	1.92	\$3,606,226	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strutture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Eartr	nwork and Related Items	haatara	\$12,081	0.00	\$0	0.00	\$0
2	Site Preparation - Undeveloped	hectare					
3	Cut Fill	m3 m3	\$9 \$9	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Borrow	m3	\$13.35	0.00	\$0 \$0	0.00	\$0
5		m3	\$0.00	0.00	\$0 \$0	0.00	\$0
6	Spoil Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0 \$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0 \$0	0.00	\$0
8	Special Drainage Facilities		Earthwork	0.00	\$0 \$0	0.00	\$0
	Special Drainage Facilities	5% 01	Lai ti iwUl K		ΦU		\$0
1	Standard Structure	km	\$13,733,933	1.92	\$26,369,152	0.00	\$0
2	High Structure	km	\$15,733,933	0.00	\$20,309,132	0.00	\$0
3	Long Span Structure	km	\$16,480,720	0.00	\$0 \$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0 \$0	0.00	\$0
5	Waterway Crossing - Frinary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0 \$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0 \$0	0.00	\$0
7	Twin Single Track Bill & Blast (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
	e Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	1.00	\$1,157,211
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail a	and Utility Relocation	,					
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.99	\$673,535	0.13	\$88,444
7	Major Utility Relocation - Suburban	km	\$273,407	1.42	\$389,468	1.60	\$437,451
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.18	\$2,536	4.68	\$65,465
Right	t-of-Way						
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	1.50	\$4,106,412	0.19	\$520,146
	Suburban	hectare	\$479,081	2.17	\$1,040,086	2.44	\$1,168,958
	Undeveloped	hectare	\$342,201	0.28	\$94,447	7.11	\$2,433,049
Envir	onmental Mitigation						
	Environmental Mitigation	3% 0	f Line Cost		\$1,173,224		\$791,128
Syste	em Elements						
1	Signaling (ATC)	km	\$845,654	2.595	\$2,194,101	6.405	\$5,416,787
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	2.595	\$1,814,670	6.405	\$4,480,050
3	Wayside Protection System	km	\$67,144	2.595	\$174,208	6.405	\$430,085
Elect	rification Items						
1	Traction Power Supply	km	\$432,365	2.595	\$1,121,796	6.405	\$2,769,485
2	Traction Power Distribution	km	\$806,233	2.595	\$2,091,819	6.405	\$5,164,276
Prog	ram Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$11,608,016		\$7,977,472
Conti	ingencies (PER SCREENING)						
	Contingencies	25% of Total	Construction Cost		\$11,380,408		\$7,821,05
Total	Construction				\$39,107,462		\$26,370,925
	Construction and Dight of May (Includes Environmental Mit				\$45,521,631		¢21 204 204
<u> Tot</u> al	Construction and Right of Way (Includes Environmental Mit	igation)			\$68,510,055		\$31,284,20 \$47,082,72

	COST ELEMENTS	UNIT	UNIT PRICE		QUANTI	ITIES	
				Livermore to P	off	Patterson Pas Green	ville
Align Track	ment Cost			UPR Quantities	R 6 Item Cost	UPRI Quantities	
Iraci	Double Track Section-Total	km		3.55	rtem Cost	2.99	Item Cost
1	Double Track Section - At Grade	km	\$993,167	3.40	\$3,376,767	2.99	\$2,969,569
2	Double Track Section - On Structure	km	\$1,878,243	0.15	\$283,014	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
	Single Track Section - Total	km		0.00		0.00	· · · · · · · · · · · · · · · · · · ·
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	work and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0.00	\$0	13,320.00	\$118,570
3	Fill	m3	\$9	0.00	\$0	0.00	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0	1.80	\$183,119
8	Special Drainage Facilities	5% of	Earthwork		\$0		\$15,084
Struc	tures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.15	\$2,472,108	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
	e Separations		700/011/210		7.7		**
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	1.00	\$17,167,417
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	3.00	\$20,600,900	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation		ţ.,,o,ooz	0.00	# 5	0.00	40
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	2.09	\$1,421,907	1.08	\$734.765
7	Major Utility Relocation - Suburban	km	\$273,407	1.07	\$292,545	0.39	\$106,629
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.39	\$5,455	1.55	\$21,676
	e-of-Way		,		. = / . = =		. = . , = . 0
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	3.19	\$8,732,970	1.63	\$4,462,301
	Suburban	hectare	\$479,081	1.62	\$776,112	0.59	\$282,658
	Undeveloped	hectare	\$342,201	0.59	\$201,899	2.36	\$807,594
Envir	onmental Mitigation				· · ·		
	Environmental Mitigation	3% o	f Line Cost		\$1,157,250		\$895,222
Syste	em Elements						
1	Signaling (ATC)	km	\$845,654	3.551	\$3,002,648	2.990	\$2,528,506
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	3.551	\$2,483,393	2.990	\$2,091,246
3	Wayside Protection System	km	\$67,144	3.551	\$238,406	2.990	\$200,760
Elect	rification Items						
1	Traction Power Supply	km	\$432,365	3.551	\$1,535,188	2.990	\$1,292,770
2	Traction Power Distribution	km	\$806,233	3.551	\$2,862,675	2.990	\$2,410,636
Prog	ram Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$12,608,025		\$9,253,573
Conti	ngencies (PER SCREENING)						
COLL	Contingencies	25% of Total	Construction Cost		\$12,360,809		\$9,072,131
COIIL	Contingencies						
	Construction				\$38,575,006		\$29,840,747
Total					\$38,575,006 \$49,443,237		\$29,840,747 \$36,288,523

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				Greenville to A		Altamont Pass t	
	ment Cost			UPR		UPR	
Track	Double Track Section-Total	km		Quantities 11.25	Item Cost	Quantities 5.26	Item Cost
1	Double Track Section - At Grade	km	\$993,167	2.29	\$2,275,345	4.85	\$4,816,859
2	Double Track Section - On Structure	km	\$1,878,243	3.06	\$5,747,422	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	5.90	\$11,079,753	0.41	\$771,958
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6 7	Single Track Section - On Strcuture Single Track Section - In Tunnel or Subway	km km	\$939,121 \$939,121	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
8	Single Track Section - In Trumer of Subway Single Track Section - In Trench	km	\$939,121	0.00	\$0 \$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	21,091,950.00	\$187,752,598	391,910.00	\$3,488,635
3	Fill	m3	\$9	3,552,290.00	\$31,621,148	485,180.00	\$4,318,890
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5 6	Spoil Cut/Fill Slopes (Landscaping/Erosion Control)	m3	\$0.00 \$8,075	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	hectare km	\$101,733	8.19	\$833,192	2.85	\$289,939
8	Special Drainage Facilities		f Earthwork	0.17	\$11,010,347	2.00	\$404,873
	ctures/Tunnels/Walls	2,30					,,00
1	Standard Structure	km	\$13,733,933	0.98	\$13,459,255	0.00	\$0
2	High Structure	km	\$16,480,720	2.08	\$34,279,898	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0 \$0	0.00	\$0 \$0
7	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0 \$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	11.80	\$51,910,555	0.82	\$3,607,955
18 19	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	e Separations	KIII	\$30,077,270	0.00	ΨΟ	0.00	40
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	1.00	\$1,093,628	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0 \$179.022	0.00	\$0 \$0	0.00	\$0 \$0
	Minor crossing closure and Utility Relocation	EA	\$178,032	0.00	\$0	0.00	\$0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0 \$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.79	\$536,719	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	0.00	\$0
8	Major Utility Relocation - Undeveloped	km	\$13,988	10.48	\$146,612	3.50	\$48,959
	t-of-Way			1		1	
1	Right-of-Way Required for Each Segment		#0.707.40F	1.05	#2 200 / CT	0.00	A
	Urban Suburban	hectare	\$2,737,608 \$479,081	1.20	\$3,290,605	0.00	\$0 \$0
	Suburban Undeveloped	hectare hectare	\$479,081 \$342,201	0.00 15.97	\$0 \$5,465,976	0.00 5.33	\$1,825,300
Envir	ronmental Mitigation	Hectare	ψ34Z,ZUI	13.77	ψυ, π υυ,770	0.00	Ψ1,020,300
	Environmental Mitigation	3% (of Line Cost		\$11,514,542		\$982,385
Syste	em Elements	. 2.00			7		
1	Signaling (ATC)	km	\$845,654	11.250	\$9,513,610	5.261	\$4,448,987
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	11.250	\$7,868,399	5.261	\$3,679,613
3	Wayside Protection System	km	\$67,144	11.250	\$755,366	5.261	\$353,243
	rification Items		# 100 O.T	44.05-	#4.0/4.d=-1	5.045	#0.07.1.T
1	Traction Power Supply Traction Power Distribution	km	\$432,365	11.250	\$4,864,101	5.261	\$2,274,670
2 Progr	Traction Power Distribution ram Implementation Costs (PER SCREENING)	km	\$806,233	11.250	\$9,070,119	5.261	\$4,241,591
rogi	Program Implementation Costs (PER SCREENING)	25.5% of Total	Cost & Procurement		\$103,042,744		\$9,066,233
Conti	ingencies (PER SCREENING)	20.070 UI 1Uldi	oost a mocurement		¥103,042,744		ψ7,000,233
	Contingencies	25% of Tota	I Construction Cost		\$101,022,298		\$8,888,464
Total	Construction	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			\$383,818,069		\$32,746,171
	Construction and Right of Way (Includes Environmental Mitig	jation)			\$404,089,192		\$35,553,856
	d Total				\$608,154,234		\$53,508,554

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				County Lin	e to Tracy		
				Down		Tracy Downto	wn to I-205
Align	ment Cost			UPRI		UPRF	11
Track				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		12.84		7.34	
1	Double Track Section - At Grade	km	\$993,167	10.99	\$10,911,924	6.03	\$5,988,796
2	Double Track Section - On Structure	km	\$1,878,243	1.85	\$3,474,749	1.31	\$2,460,498
	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
г	Single Track Section - Total	km	¢407 E03	0.00	¢0	0.00	¢0
5 6	Single Track Section - At Grade Single Track Section - On Strcuture	km	\$496,583	0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Single Track Section - On Structure Single Track Section - In Tunnel or Subway	km km	\$939,121 \$939,121	0.00	\$0 \$0	0.00	\$0 \$0
8	Single Track Section - In Trumel of Subway Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
	work and Related Items	NIII	\$470,505	0.00	ΦU	0.00	\$ U
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$12,001	2,091,950.00	\$18,621,751	1,442,610.00	\$12,841,571
3	Fill	m3	\$9	2,668,260.00	\$23,751,846	197,600.00	\$1,758,961
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	10.99	\$1,117,739	6.03	\$613.449
8	Special Drainage Facilities		Earthwork	.0.77	\$2,174,567	3.00	\$760,699
	tures/Tunnels/Walls	570 01			+=,.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		4.00,077
1	Standard Structure	km	\$13,733,933	1.15	\$15,794,023	1.31	\$17,991,453
2	High Structure	km	\$16,480,720	0.70	\$11,536,504	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	2.00	\$46,238,451	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grade	Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	2.00	\$13,733,933	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	3.00	\$3,471,633	2.00	\$2,314,422
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail a	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.25	\$168,044	0.26	\$176,888
7	Major Utility Relocation - Suburban	km	\$273,407	4.82	\$1,316,865	5.01	\$1,369,769
8	Major Utility Relocation - Undeveloped	km	\$13,988	7.29	\$101,925	7.57	\$105,891
Right	-of-Way						
1	Right-of-Way Required for Each Segment						·
	Urban	hectare	\$2,737,608	0.38	\$1,029,341	0.39	\$1,067,667
	Suburban	hectare	\$479,081	7.34	\$3,516,457	7.61	\$3,645,809
	Undeveloped	hectare	\$342,201	11.10	\$3,799,799	11.51	\$3,938,733
Envir	onmental Mitigation						
	Environmental Mitigation	3% o	f Line Cost		\$5,670,294		\$2,019,220
Syste	m Elements		4		****		A
1	Signaling (ATC)	km	\$845,654	12.837	\$10,855,663	7.340	\$6,207,102
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	12.837	\$8,978,368	7.340	\$5,133,693
3	Wayside Protection System	km	\$67,144	12.837	\$861,923	7.340	\$492,835
Electi	rification Items						
1	Traction Power Supply	km	\$432,365	12.837	\$5,550,264	7.340	\$3,173,556
2	Traction Power Distribution	km	\$806,233	12.837	\$10,349,610	7.340	\$5,917,748
Progr	ram Implementation Costs (PER SCREENING)	los sections	0.100		AF4		***
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$51,771,547		\$19,884,584
Conti	ngencies (PER SCREENING)						
	Contingencies	25% of Total	Construction Cost		\$50,756,419		\$19,494,690
_					\$189,009,784		\$67,307,332
	Construction						
Total	Construction Construction and Right of Way (Includes Environmental Mit d Total	igation)			\$203,025,675 \$305,553,641		\$77,978,76 \$117,358,03

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
Alian	ment Cost			I-205 to		I-205 to Lathr UPRI	
Track				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		8.31		13.14	
1	Double Track Section - At Grade	km	\$993,167	8.01	\$7,955,267	12.84	\$12,752,262
2	Double Track Section - On Structure	km	\$1,878,243	0.30	\$563,473	0.30	\$563,473
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00 0.00	\$0 \$0	0.00	\$0 \$0
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - At Grade Single Track Section - On Streuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	work and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0.00	\$0	0.00	\$0
3	Fill	m3	\$9	1,725,580.00	\$15,360,464	837,200.91	\$7,452,447
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5 6	Spoil Cut/Fill Slopes (Landscaping/Fresian Central)	m3	\$0.00 \$8,075	0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Cut/Fill Slopes (Landscaping/Erosion Control) Fencing (Both Sides of R/W)	hectare km	\$8,075 \$101,733	0.00 8.01	\$0 \$814,880	12.84	\$1,306,250
8	Special Drainage Facilities		\$101,733 Earthwork	8.01	\$814,880	12.84	\$1,306,250
	tures/Tunnels/Walls	5 76 UI	EG/ HIWOTK		\$550,707		Ψ-101,700
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.30	\$4,944,216	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.30	\$8,663,020
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13 14	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
15	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.00	\$0 \$0	0.00	\$0 \$0
16	Mechanical & Electrical for Tunnels	km	\$39,272,836	0.00	\$0 \$0	0.00	\$0 \$0
17	Retaining Walls	km	\$4,399,945	1.40	\$6,159,923	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0,134,423	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
	e Separations	KIII	\$30,011,210	0.00	40	0.00	\$0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	3.00	\$53,791,239
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	5.00	\$5,786,055	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation		44.074.444	0.00	40	0.00	**
2	Single Track Relocation (temporary)	km km	\$1,271,661	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Single Track Relocation (permanent) Single Track Removal	km	\$1,271,661 \$63,372	0.00	\$0 \$0	0.00	\$0 \$0
5	Major Utility Relocation - Urban	km	\$680,338	2.32	\$1,578,385	5.78	\$3,933,444
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$1,576,365	0.00	\$3,933,444
8	Major Utility Relocation - Undeveloped	km	\$13,988	5.98	\$83,650	7.36	\$102,931
	e-of-Way	1 1011	ψ.0,700	0.70	+ 30/000	7.00	Ţ.02j701
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	3.54	\$9,691,133	8.79	\$24,063,576
	Suburban	hectare	\$479,081	0.00	\$0	0.00	\$0
	Undeveloped	hectare	\$342,201	9.09	\$3,110,607	11.18	\$3,825,807
Envir	onmental Mitigation						
	Environmental Mitigation	3% o	f Line Cost		\$2,032,359		\$3,793,879
Syste	em Elements		*0.45 :=:		#7.00= ·	40 1	444
1	Signaling (ATC)	km	\$845,654	8.310	\$7,027,387	13.140	\$11,111,897
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	8.310	\$5,812,124	13.140	\$9,190,290
3 Floct	Wayside Protection System	km	\$67,144	8.310	\$557,964	13.140	\$882,268
_iect	rification Items	lem	¢422.24F	0 210	\$3,592,950	12 140	¢5 401 270
1	Traction Power Supply Traction Power Distribution	km	\$432,365	8.310		13.140	\$5,681,270
2 Drog	Traction Power Distribution ram Implementation Costs (PER SCREENING)	km	\$806,233	8.310	\$6,699,794	13.140	\$10,593,898
rogi	Program Implementation Costs (PER SCREENING)	25 5% of Total	Cost & Procurement		\$21,057,746		\$40,327,201
	Ingencies (PER SCREENING)	25.5% UI 10tal	COST & FIOCUIEITIENT		φ <u>∠</u> 1,U37,140		\$4U,3Z1,ZU
Conti	ngenera (I ER JOREERINO)				#20 / 44 D40		¢20 F27 477
Conti	Contingencies	25% of Total	Construction Cost				
	Construction Construction	25% of Total	Construction Cost		\$20,644,849 \$67,745,299		\$39,536,472 \$126,462,626
Total	Contingencies Construction Construction and Right of Way (Includes Environmental Miti		Construction Cost		\$20,644,849 \$67,745,299 \$82,579,397		\$126,462,626 \$158,145,888

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				Sunol to Dubli		Dublin/Pleasant	
			-	ВА		Charo I	
	nment Cost			1680/580		1680/580/	
Trac	Double Track Section-Total	km		Quantities 11.27	Item Cost	Quantities 4.09	Item Cost
1	Double Track Section - At Grade	km	\$993.167	0.00	\$0	0.00	\$0
2	Double Track Section - On Structure	km	\$1,878,243	11.27	\$21,165,915	4.09	\$7,685,769
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km km	\$496,583	0.45 0.00	\$0	0.00	\$0
6	Single Track Section - At Grade Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.90	\$845,209	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade hwork and Related Items	km	\$496,583	0.00	\$0	0.00	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$12,001	0.00	\$0	30,280.00	\$269,541
3	Fill	m3	\$9	0.00	\$0	0.00	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil (5) (5) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	m3	\$0.00	0.00	\$0	0.00	\$0
6 7	Cut/Fill Slopes (Landscaping/Erosion Control) Fencing (Both Sides of R/W)	hectare km	\$8,075 \$101,733	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
8	Special Drainage Facilities		f Earthwork	0.00	\$0 \$0	0.00	\$13,477
	ctures/Tunnels/Walls	3700			40		\$10,477
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	11.27	\$185,721,235	4.09	\$67,439,107
3	Long Span Structure Waterway Crossing - Primary	km km	\$37,577,568 \$28,876,734	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
5	Waterway Crossing - Primary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$28,876,734	0.00	\$0 \$0	0.00	\$0 \$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10 11	Double Track Mined (Soft Soil)	km	\$96,247,282	0.45	\$43,311,277	0.00	\$0 \$0
12	Seismic Chamber (Drill & Blast/Mined) Crossovers	ea ea	\$94,803,899 \$94,803,899	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.45	\$869,113	0.00	\$0
17 18	Retaining Walls Containment Walls	km	\$4,399,945 \$1,500,559	0.00	\$0	0.00	\$0 \$0
19	Single Track Cut and Cover Subway	km km	\$30,077,276	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	le Separations	TATT	\$00 011 210	0.00	40	0.00	
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Urban Sreet Undercrossing HSR - Suburban	EA EA	\$17,930,413 \$6,866,967	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation						
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km km	\$1,271,661 \$1,271,661	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Single Track Renoval	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	7.65	\$5,203,228	2.45	\$1,669,550
7	Major Utility Relocation - Suburban	km	\$273,407	3.11	\$849,476	0.98	\$268,376
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.96	\$13,373	0.65	\$9,154
	tt-of-Way Right-of-Way Required for Each Segment					T	
1	Urban	hectare	\$2,737,608	12.02	\$32,906,051	3.74	\$10,238,655
	Suburban	hectare	\$479,081	4.74	\$2,268,450	1.50	\$716,706
	Undeveloped	hectare	\$342,201	1.46	\$498,587	1.00	\$341,174
Envi	ronmental Mitigation						
C. C.	Environmental Mitigation	3% 0	of Line Cost		\$8,741,624		\$2,670,614
oyst∈ 1	em Elements Signaling (ATC)	km	\$845,654	11.719	\$9,910,222	4.092	\$3,460,417
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	11.719	\$8,196,424	4.092	\$2,861,999
3	Wayside Protection System	km	\$67,144	11.719	\$786,857	4.092	\$274,752
	trification Items						
1	Traction Power Supply	km	\$432,365	11.719	\$5,066,880	4.092	\$1,769,230
2	Traction Power Distribution	km	\$806,233	11.719	\$9,448,242	4.092	\$3,299,10
rrog	ram Implementation Costs (PER SCREENING) Program Implementation Costs	25 5% of Total	Cost & Procurement		\$85,629,551	Т	\$26,261,846
Cont	tingencies (PER SCREENING)	Z3.376 UL 10tal	COSt α PIUCUI EIIIENT		\$60,674,00 I		φ∠0,∠01,840
Jone	Contingencies	25% of Tota	Construction Cost		\$83,950,541		\$25,746,90
Tota	I Construction				\$291,387,451		\$89,020,483
	I Construction and Right of Way (Includes Environmental Mit	igation)			\$335,802,162		\$102,987,632
	nd Total	<u> </u>			\$505,382,254		\$154,996,386

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				El Charo road to	Livermore (I-		
				58	•	Livermore (1-58	0) to Greenville
Align	ment Cost			1680/580		1680/580	
Tracl	K			Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		5.32		8.11	
1	Double Track Section - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
2	Double Track Section - On Structure	km	\$1,878,243	5.32	\$9,992,250	8.11	\$15,232,547
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0 \$0	0.00	\$0 \$0
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	0.00	\$0	0.00 0.00	\$0
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strouture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	38,200.00	\$340,042	70,000.00	\$623,114
3	Fill	m3	\$9	15,000.00	\$133,524	114,150.00	\$1,016,120
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil Cut/Fill Slanes (Landscaping/Fracian Control)	m3	\$0.00	0.00	\$0	0.00	\$0 \$0
6 7	Cut/Fill Slopes (Landscaping/Erosion Control) Fencing (Both Sides of R/W)	hectare km	\$8,075 \$101,733	0.00 0.00	\$0 \$0	0.00	\$0 \$0
8	Special Drainage Facilities		\$101,733 Earthwork	0.00	\$0 \$23,678	0.00	\$0 \$81,962
	ctures/Tunnels/Walls	3 /8 01	ZG/ HIWOTK		Ψ Z J,U10		Ψ01,70Z
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.95	\$13,047,237
2	High Structure	km	\$16,480,720	5.32	\$87,677,431	7.16	\$118,001,956
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18 19	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.00 0.00	\$0 \$0	0.00	\$0 \$0
	e Separations	KIII	\$30,077,276	0.00	\$0	0.00	\$0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail a	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal	km km	\$1,271,661 \$63,372	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
2 3 5	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban	km km km	\$1,271,661 \$63,372 \$680,338	0.00 0.00 3.11	\$0 \$0 \$2,115,376	0.00 0.00 3.57	\$0 \$0 \$2,427,719
2 3 5 7	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban	km km km km	\$1,271,661 \$63,372 \$680,338 \$273,407	0.00 0.00 3.11 0.53	\$0 \$0 \$2,115,376 \$144,085	0.00 0.00 3.57 1.05	\$0 \$0 \$2,427,719 \$288,253
2 3 5 7 8	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km km km	\$1,271,661 \$63,372 \$680,338	0.00 0.00 3.11	\$0 \$0 \$2,115,376	0.00 0.00 3.57	\$0 \$0 \$2,427,719
2 3 5 7 8 Righ	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way	km km km km	\$1,271,661 \$63,372 \$680,338 \$273,407	0.00 0.00 3.11 0.53	\$0 \$0 \$2,115,376 \$144,085	0.00 0.00 3.57 1.05	\$0 \$0 \$2,427,719 \$288,253
2 3 5 7 8	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment	km km km km	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988	0.00 0.00 3.11 0.53 1.63	\$0 \$0 \$2,115,376 \$144,085 \$22,853	0.00 0.00 3.57 1.05 3.49	\$0 \$0 \$2,427,719 \$288,253 \$48,781
2 3 5 7 8 Righ	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban	km km km km km	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988	0.00 0.00 3.11 0.53 1.63	\$0 \$0 \$2,115,376 \$144,085 \$22,853	0.00 0.00 3.57 1.05 3.49	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114
2 3 5 7 8 Righ	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban	km km km km km	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081	0.00 0.00 3.11 0.53 1.63 4.74 0.80	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798	0.00 0.00 3.57 1.05 3.49 5.44 1.61	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884
2 3 5 7 8 Righ	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban	km km km km km	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988	0.00 0.00 3.11 0.53 1.63	\$0 \$0 \$2,115,376 \$144,085 \$22,853	0.00 0.00 3.57 1.05 3.49	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114
2 3 5 7 8 Righ	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped	km km km km km hectare hectare	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081	0.00 0.00 3.11 0.53 1.63 4.74 0.80	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884
2 3 5 7 8 Righ	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped Tonmental Mitigation	km km km km km hectare hectare	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201	0.00 0.00 3.11 0.53 1.63 4.74 0.80	\$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798
2 3 5 7 8 Righ	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation em Elements Signaling (ATC)	km km km km km hectare hectare	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632
2 3 5 7 8 Righ	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation Em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone)	km km km km km hectare hectare hectare	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242
2 3 5 7 8 Righ 1	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System	km km km km km hectare hectare hectare	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632
2 3 5 7 8 Righ 1	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation Environmental Mitigation Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification I tems	km km km km km km hectare hectare hectare s3% o km km	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879 \$357,204	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32 8.110 8.110	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242 \$544,535
2 3 5 7 8 Righ 1	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation Environmental Mitigation Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification Items Traction Power Supply	km km km km km hectare hectare hectare hectare hectare	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879 \$357,204	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32 8.110 8.110	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242 \$544,535
2 3 5 7 8 Right 1 2 3 Elect 1 2	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System Traction Power Supply Traction Power Distribution	km km km km km km hectare hectare hectare s3% o km km	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879 \$357,204	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32 8.110 8.110	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242 \$544,535
2 3 5 7 8 Right 1 2 3 Elect 1 2	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation Environmental Mitigation Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING)	km km km km km km hectare hectare hectare swo o km km km km km km	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879 \$357,204 \$2,300,180 \$4,289,158	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32 8.110 8.110 8.110	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242 \$544,535 \$3,506,477 \$6,538,548
2 3 5 7 8 Right 1 2 3 Elect 1 2 Prog	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation Environmental Mitigation Environmental Mitigation Environmental Mitigation To Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs	km km km km km km hectare hectare hectare swo o km km km km km km	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879 \$357,204	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32 8.110 8.110 8.110	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242 \$544,535 \$3,506,477 \$6,538,548
2 3 5 7 8 Right 1 2 3 Elect 1 2 Prog	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped Tonmental Mitigation Environmental Mitigation Tements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply Traction Power Distribution Tam Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km km km km km km hectare hectare hectare hectare hectare 1 3% o	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879 \$357,204 \$2,300,180 \$4,289,158	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32 8.110 8.110 8.110	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242 \$544,535 \$3,506,477 \$6,538,548
2 3 5 7 8 Righ 1 2 3 Elect 1 2 Prog	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Urban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped conmental Mitigation Environmental Mitigation Environmental Mitigation Emisements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING) Contingencies	km km km km km km hectare hectare hectare hectare hectare 1 3% o	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879 \$357,204 \$2,300,180 \$4,289,158 \$33,990,075	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32 8.110 8.110 8.110	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242 \$544,535 \$3,506,477 \$6,538,548 \$50,127,944 \$49,145,044
2 3 5 7 8 Right 1 Syste 1 2 3 Elect 1 2 Prog	Single Track Relocation (temporary) Single Track Relocation (permanent) Single Track Removal Major Utility Relocation - Urban Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped t-of-Way Right-of-Way Required for Each Segment Urban Suburban Undeveloped Tonmental Mitigation Environmental Mitigation Tements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply Traction Power Distribution Tam Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km k	\$1,271,661 \$63,372 \$680,338 \$273,407 \$13,988 \$2,737,608 \$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	0.00 0.00 3.11 0.53 1.63 4.74 0.80 2.49 5.320 5.320 5.320 5.320	\$0 \$0 \$2,115,376 \$144,085 \$22,853 \$12,973,525 \$384,798 \$852,080 \$3,468,466 \$4,498,881 \$3,720,879 \$357,204 \$2,300,180 \$4,289,158	0.00 0.00 3.57 1.05 3.49 5.44 1.61 5.32 8.110 8.110 8.110	\$0 \$0 \$2,427,719 \$288,253 \$48,781 \$14,887,114 \$769,884 \$1,818,798 \$5,216,632 \$6,858,256 \$5,672,242 \$544,535 \$3,506,477 \$6,538,548

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				Greenville to		UPRR to I-580	
Align Track	ment Cost			1680/580 Quantities	Item Cost	Pleasont Quantities	Item Cost
Hack	Double Track Section-Total	km		6.44	Hem Cost	4.45	Heili Cost
1	Double Track Section - At Grade	km	\$993,167	0.66	\$655,490	3.55	\$3,528,722
2	Double Track Section - On Structure	km	\$1,878,243	2.68	\$5,033,690	0.90	\$1,690,418
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.55	\$1,033,033	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	2.55	\$4,780,127	0.00	\$0
	Single Track Section - Total	km		2.22		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	4.44	\$4,169,698	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	work and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	6,296,630.00	\$56,050,230	5,100.00	\$45,398
3	Fill	m3	\$9	1,629,230.00	\$14,502,792	114,700.00	\$1,021,016
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	3.19	\$324,019	3.55	\$361,152
8	Special Drainage Facilities	5% o	f Earthwork		\$3,543,852		\$71,378
	tures/Tunnels/Walls		440		440.05		
1	Standard Structure	km	\$13,733,933	0.89	\$12,223,201	0.00	\$0
2	High Structure	km	\$16,480,720	1.19	\$19,612,057	0.50	\$8,240,360
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.60	\$17,326,041	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.40	\$9,247,690
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	2.22	\$123,131,268	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13 14	Cut & Cover Double Track Tunnel Trench Short	km km	\$48,123,641 \$49,668,587	0.55	\$26,468,002	0.00	\$0 \$0
15	Trench Long	km		0.00 0.00	\$0 \$0	0.00 0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$39,272,836 \$1,931,362	2.77	\$5,349,873	0.00	\$0
17	Retaining Walls	km	\$4,399,945	5.09	\$22,395,722	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$22,395,722	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0 \$0
	e Separations	KIII	\$30,077,270	0.00	\$0	0.00	Ψ0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	3.00	\$3,471,633
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation		\$170,03Z	0.00	ΨŪ	0.00	\$0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	0.68	\$464,331
7	Major Utility Relocation - Suburban	km	\$273,407	0.78	\$213,257	0.00	\$0
8	Major Utility Relocation - Undeveloped	km	\$13,988	7.91	\$110,647	3.87	\$54,100
	t-of-Way		,				,
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.00	\$0	1.04	\$2,847,113
	Suburban	hectare	\$479,081	1.18	\$565,316	0.00	\$0
	Undeveloped	hectare	\$342,201	12.02	\$4,113,256	5.89	\$2,016,932
Envir	onmental Mitigation						
	Environmental Mitigation	3% 0	of Line Cost		\$10,247,902		\$1,226,725
Syste	em Elements						
1	Signaling (ATC)	km	\$845,654	8.655	\$7,319,137	4.453	\$3,765,698
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	8.655	\$6,053,422	4.453	\$3,114,487
3	Wayside Protection System	km	\$67,144	8.655	\$581,129	4.453	\$298,99
Elect	rification Items						
1	Traction Power Supply	km	\$432,365	8.655	\$3,742,115	4.453	\$1,925,319
2	Traction Power Distribution	km	\$806,233	8.655	\$6,977,945	4.453	\$3,590,15
Progi	ram Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$90,913,422		\$11,980,31
Conti	ingencies (PER SCREENING)						
	Contingencies	25% of Tota	Construction Cost		\$89,130,806		\$11,745,40
Total	Construction				\$341,596,749		\$40,890,84
	Construction and Right of Way (Includes Environmental Mitig	nation)			\$356,523,223		\$46,981,61
	d Total	Julion)			\$536,567,450		\$70,707,33

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
۸۱:	mont Cost				on Pass	County Line to	
Track	ment Cost			Quantities	on Pass Item Cost	S UPF Quantities	Item Cost
Hack	Double Track Section-Total	km		19.07	rtem cost	2.09	rtem cost
1	Double Track Section - At Grade	km	\$993,167	12.53	\$12,448,353	2.09	\$2,072,739
2	Double Track Section - On Structure	km	\$1,878,243	1.60	\$3,005,188	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	4.94	\$9,278,518	0.00	\$0
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6 7	Single Track Section - On Struture	km	\$939,121	0.00	\$0 \$0	0.00	\$0 \$0
8	Single Track Section - In Tunnel or Subway Single Track Section - In Trench	km km	\$939,121 \$939,121	0.00	\$0 \$0	0.00 0.00	\$0 \$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
	work and Related Items		**********		**		
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	24,522,780.00	\$218,292,556	100,650.00	\$895,948
3	Fill	m3	\$9	9,043,540.00	\$80,502,188	791,870.00	\$7,048,929
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	20.85	\$2,121,130	2.09	\$212,316
8	Special Drainage Facilities	5% of	Earthwork		\$15,045,794		\$407,860
Struc 1	tures/Tunnels/Walls Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$13,733,933	1.60	\$26,369,152	0.00	\$0 \$0
3	Long Span Structure	km	\$16,480,720	0.00	\$20,309,152	0.00	\$0 \$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0 \$0	0.00	\$0 \$0
5	Waterway Crossing - Primary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0 \$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track BM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	9.88	\$43,471,460	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
	e Separations				4-		
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	1.00	\$1,093,628	0.00	\$0
4 5	Sreet Undercrossing HSR - Urban Sreet Undercrossing HSR - Suburban	EA EA	\$17,930,413 \$6,866,967	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	3.00	\$3,471,633	0.00	\$0
7	Street Bridging HSR Trench	EA	\$1,157,211	0.00	\$3,471,633	0.00	\$0 \$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation		¥170,032	0.00	Ψ0	3.00	Ψ0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	2.29	\$1,556,886	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	2.10	\$573,526	0.00	\$0
8	Major Utility Relocation - Undeveloped	km	\$13,988	14.68	\$205,402	2.09	\$29,235
	-of-Way						
1	Right-of-Way Required for Each Segment		A		40.7.7		
	Urban	hectare	\$2,737,608	3.49	\$9,548,778	0.00	\$0
	Suburban	hectare	\$479,081	3.20	\$1,531,623	0.00	\$0
Envi	Undeveloped	hectare	\$342,201	22.38	\$7,657,773	3.19	\$1,089,978
EHVIF	onmental Mitigation Environmental Mitigation	20/ ^	f Line Cost		\$14,154,352		\$498,500
Systo	em Elements	3%0	I LIIT CUST		φ14,104,35Z		\$470,3UL
Jysie 1	Signaling (ATC)	km	\$845,654	19.074	\$16,130,009	2.087	\$1,764,880
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	19.074	\$13,340,609	2.087	\$1,459,676
3	Wayside Protection System	km	\$67,144	19.074	\$1,280,698	2.087	\$140,129
	rification Items		+=////		, _ 50,070	2.007	+. 10/12/
1	Traction Power Supply	km	\$432,365	19.074	\$8,246,922	2.087	\$902,345
2	Traction Power Distribution	km	\$806,233	19.074	\$15,378,084	2.087	\$1,682,608
	ram Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$128,699,587		\$4,642,312
Conti	ngencies (PER SCREENING)						
	Contingencies	25% of Total	Construction Cost		\$126,176,066		\$4,551,286
	Canadanistica	· · · · · · · · · · · · · · · · · · ·			\$471,811,737		\$16,616,665
	Construction						
Total	Construction Construction and Right of Way (Includes Environmental Mitid Total	igation)			\$504,704,263 \$759,579,915		\$18,205,144 \$27,398,74

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				South of Tracy	to Tracy ACE		
				Stat		Tracy ACE Stat	ion to I-205
Align	ment Cost			S UPF	RR 2	S UPR	R 3
Track			1	Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		15.51		7.14	
1	Double Track Section - At Grade	km	\$993,167	12.74	\$12,652,946	5.90	\$5,859,684
2	Double Track Section - On Structure	km	\$1,878,243	2.77	\$5,202,732	1.24	\$2,329,021
3	Double Track Section - In Tunnel or Subway Double Track Section - In Trench	km km	\$1,878,243 \$1,878,243	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Single Track Section - Total	km	\$1,070,243	0.00	\$0	0.00	\$0
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strouture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
	work and Related Items		T		4.5		
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	8,458,540.00	\$75,294,739	85,480.00	\$760,911
3	Fill	m3	\$9 \$13.35	3,233,370.00	\$28,782,242	0.00 0.00	\$0 \$0
5	Borrow	m3	\$13.35	0.00 0.00	\$0 \$0	0.00	\$0 \$0
6	Spoil Cut/Fill Slopes (Landscaping/Erosion Control)	m3 hectare	\$8,075	0.00	\$0 \$0	0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	km	\$101,733	12.74	\$1,296,076	5.90	\$600,224
8	Special Drainage Facilities		f Earthwork	12.74	\$5,268,653	3.70	\$68,057
	tures/Tunnels/Walls	3 78 01	Lattiwork		Ψ5,250,055		\$30,03 <i>1</i>
1	Standard Structure	km	\$13,733,933	1.21	\$16,618,059	1.24	\$17,030,077
2	High Structure	km	\$16,480,720	1.46	\$24,061,851	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.10	\$2,887,673	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.05	\$1,155,961	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17 18	Retaining Walls Containment Walls	km km	\$4,399,945	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
19	Single Track Cut and Cover Subway	km	\$1,500,559 \$30,077,276	0.00	\$0	0.00	\$0 \$0
	e Separations	KIII	\$30,077,270	0.00	ΨΟ	0.00	40
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	4.00	\$27,467,867	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	3.00	\$3,471,633
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	4.65	\$1,271,343	0.81	\$221,460
8	Major Utility Relocation - Undeveloped	km	\$13,988	10.92	\$152,752	6.44	\$90,084
reigni 1	t- of-Way Right-of-Way Required for Each Segment			T			
1	Urban Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	7.07	\$3,387,105	1.24	\$594,061
	Undeveloped	hectare	\$342,201	16.60	\$5,680,536	9.78	\$3,346,725
Envir	onmental Mitigation	nectare	Ψ0πZ,Z01	10.00	\$5,000,000	7.70	\$5,070,1ZJ
	Environmental Mitigation	3% n	f Line Cost		\$7,389,868		\$1,523,578
	em Elements						
Syste		km	\$845,654	15.510	\$13,116,097	7.140	\$6,037,971
Syste	Signaling (ATC)	km	\$699,413	15.510	\$10,847,900	7.140	\$4,993,811
Syste 1 2	Communications (w/Fiber Optic Backbone)	KIII	\$67,144	15.510	\$1,041,398	7.140	\$479,406
2 3	Communications (w/Fiber Optic Backbone) Wayside Protection System	km	\$07,144				
2 3	Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items	km					
1 2 3 Elect	Communications (w/Fiber Optic Backbone) Wayside Protection System rification I tems Traction Power Supply	km	\$432,365	15.510	\$6,705,975	7.140	
1 2 3 Elect 1 2	Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution	km		15.510 15.510	\$6,705,975 \$12,504,670	7.140 7.140	
1 2 3 Elect 1 2	Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING)	km km km	\$432,365 \$806,233		\$12,504,670		\$5,756,502
1 2 3 Elect 1 2	Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs	km km km	\$432,365				\$5,756,502
1 2 3 Elect 1 2	Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs Ingencies (PER SCREENING)	km km km 25.5% of Total	\$432,365 \$806,233 Cost & Procurement		\$12,504,670 \$67,010,543		\$5,756,502 \$14,343,823
1 2 3 Elect 1 2 Prog	Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs Ingencies (PER SCREENING) Contingencies	km km km 25.5% of Total	\$432,365 \$806,233		\$12,504,670 \$67,010,543 \$65,696,611		\$5,756,502 \$14,343,823 \$14,062,572
1 2 3 Elect 1 2 Progr	Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs Ingencies (PER SCREENING)	km km km 25.5% of Total	\$432,365 \$806,233 Cost & Procurement		\$12,504,670 \$67,010,543		\$3,087,083 \$5,756,502 \$14,343,823 \$14,062,572 \$50,785,924 \$56,250,288

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				1.005 1- 011		1 005 to 1 other	6
Alian	ment Cost			I-205 to Souther		I-205 to Lathr	
Track				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		6.46	110111 0001	11.07	110111 0001
1	Double Track Section - At Grade	km	\$993,167	5.95	\$5,909,343	10.37	\$10,302,120
2	Double Track Section - On Structure	km	\$1,878,243	0.51	\$961,660	0.70	\$1,314,770
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - At Grade Single Track Section - On Strouture	km km	\$496,583	0.00	\$0 \$0	0.00	\$0 \$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0 \$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	work and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0.00	\$0	0.00	\$0
3	Fill	m3	\$9	421,090.00	\$3,748,385	2,457,170.79	\$21,872,809
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil (Fig. 1) (Fig. 1) (Fig. 1)	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W) Special Drainage Facilities	km 5% of	\$101,733 FEarthwork	5.95	\$605,310 \$217,685	10.37	\$1,055,275 \$1,146,404
	tures/Tunnels/Walls	5% 01	Lai i i iwo K		\$∠17,080		Φ1,140,4U4
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.21	\$3,460,951	0.10	\$1,648,072
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.60	\$17,326,041	0.30	\$8,663,020
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.30	\$6,935,768
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	1.00	\$4,399,945	7.00	\$30,799,617
18 19	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	e Separations	KIII	\$30,077,276	0.00	\$0	0.00	\$0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	2.00	\$35,860,826
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	3.00	\$3,471,633	2.00	\$2,314,422
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail a	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	5.87	\$3,991,613
7	Major Utility Relocation - Suburban	km	\$273,407	3.36	\$918,648	0.00	\$72.790
8 Diah	Major Utility Relocation - Undeveloped	km	\$13,988	3.55	\$49,658	5.20	\$72,780
Righ 1	r-of-Way Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.00	\$0	8.94	\$24,476,955
		i icciai c	\$479,081	5.10	\$2,443,315	0.00	\$24,476,955
		hectare			4-1-101010		\$2,713,311
_	Suburban	hectare hectare			\$1,844,463	7.93	
		hectare hectare	\$342,201	5.39	\$1,844,463	7.93	+=
	Suburban Undeveloped	hectare			\$1,844,463 \$1,784,736	7.93	\$4,726,33
Envir	Suburban Undeveloped onmental Mitigation Environmental Mitigation em Elements	hectare	\$342,201 f Line Cost	5.39	\$1,784,736	7.93	\$4,726,33
Envir Syste	Suburban Undeveloped onmental Mitigation Environmental Mitigation im Elements Signaling (ATC)	hectare 3% o	\$342,201 f Line Cost \$845,654	5.39	\$1,784,736 \$5,464,618	11.073	\$4,726,33! \$9,363,929
Envir Syste	Suburban Undeveloped onmental Mitigation Environmental Mitigation m Elements Signaling (ATC) Communications (w/Fiber Optic Backbone)	hectare 3% o km km	\$342,201 f Line Cost \$845,654 \$699,413	5.39 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609	11.073 11.073	\$4,726,33! \$9,363,929 \$7,744,603
Envir Syste	Suburban Undeveloped onmental Mitigation Environmental Mitigation m Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System	hectare 3% o	\$342,201 f Line Cost \$845,654	5.39	\$1,784,736 \$5,464,618	11.073	\$4,726,33! \$9,363,929
Envir Syste	Suburban Undeveloped onmental Mitigation Environmental Mitigation En Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification I tems	hectare 3% o km km km	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144	5.39 6.462 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609 \$433,882	11.073 11.073 11.073	\$4,726,333 \$9,363,92' \$7,744,60 \$743,483
Envir Syste 1 2 3 Elect	Suburban Undeveloped onmental Mitigation Environmental Mitigation Im Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System Ification Items Traction Power Supply	hectare 3% o km km km	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365	5.39 6.462 6.462 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609 \$433,882 \$2,793,940	11.073 11.073 11.073	\$4,726,333 \$9,363,92 \$7,744,60 \$743,48
Syste 1 2 3 Elect 1 2	Suburban Undeveloped onmental Mitigation Environmental Mitigation mElements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System irification I tems Traction Power Supply Traction Power Distribution	hectare 3% o km km km	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144	5.39 6.462 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609 \$433,882	11.073 11.073 11.073	\$4,726,33 \$9,363,92 \$7,744,60 \$743,48
Syste 1 2 3 Elect 1 2	Suburban Undeveloped onmental Mitigation Environmental Mitigation Environmental Mitigation In Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System Crification I tems Traction Power Supply Traction Power Distribution Traction Power Distribution Traction I Implementation Costs (PER SCREENING)	hectare 3% o km km km km	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	5.39 6.462 6.462 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609 \$433,882 \$2,793,940 \$5,209,876	11.073 11.073 11.073	\$4,726,33 \$9,363,92 \$7,744,60 \$743,48 \$4,787,57 \$8,927,41
Syste 1 2 3 Elect 1 2 Prog	Suburban Undeveloped onmental Mitigation Environmental Mitigation Environmental Mitigation Environmental Mitigation Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System rification Items Traction Power Supply Traction Power Distribution 'arm Implementation Costs (PER SCREENING) Program Implementation Costs	hectare 3% o km km km km	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365	5.39 6.462 6.462 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609 \$433,882 \$2,793,940	11.073 11.073 11.073	\$4,726,33 \$9,363,92 \$7,744,60 \$743,48 \$4,787,57 \$8,927,41
Syste 1 2 3 Elect 1 2 Prog	Suburban Undeveloped onmental Mitigation Environmental Mitigation Environmental Mitigation Environmental Mitigation Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System irification Items Traction Power Supply Traction Power Distribution Earl Implementation Costs (PER SCREENING) Program Implementation Costs Ingencies (PER SCREENING)	hectare 3% o km km km km km 25.5% of Total	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233 Cost & Procurement	5.39 6.462 6.462 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609 \$433,882 \$2,793,940 \$5,209,876 \$16,718,743	11.073 11.073 11.073	\$4,726,33 \$9,363,92 \$7,744,60 \$743,48 \$4,787,57 \$8,927,41
Syste 1 2 3 Elect 1 2 Progr	Suburban Undeveloped onmental Mitigation Environmental Mitigation Environmental Mitigation In Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System Variation I tems Traction Power Supply Traction Power Distribution	hectare 3% o km km km km km 25.5% of Total	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	5.39 6.462 6.462 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609 \$433,882 \$2,793,940 \$5,209,876 \$16,718,743	11.073 11.073 11.073	\$4,726,33 \$9,363,92 \$7,744,60 \$743,48 \$4,787,57 \$8,927,41 \$48,312,58 \$47,365,27
Environment System 1 2 3 Elect 1 2 Progr	Suburban Undeveloped onmental Mitigation Environmental Mitigation Environmental Mitigation Environmental Mitigation Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System irification Items Traction Power Supply Traction Power Distribution Earl Implementation Costs (PER SCREENING) Program Implementation Costs Ingencies (PER SCREENING)	hectare 3% o km km km km cm km 25.5% of Total	\$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233 Cost & Procurement	5.39 6.462 6.462 6.462 6.462	\$1,784,736 \$5,464,618 \$4,519,609 \$433,882 \$2,793,940 \$5,209,876 \$16,718,743	11.073 11.073 11.073	\$4,726,333 \$9,363,92' \$7,744,60 \$743,483

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				Niles to Union o	ity - Niles Wye	Niles to Fremo	nt - Niles Wwa
				(E) to Nile		(E) to Nile	
ligi	nment Cost			Niles/Dum		Niles/Dum	
rac				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		4.25		5.38	
1	Double Track Section - At Grade	km	\$993,167	0.37	\$366,479	3.85	\$3,823,692
2	Double Track Section - On Structure	km	\$1,878,243	1.30	\$2,441,715	0.64	\$1,203,95
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$1 (((00
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	2.59 0.00	\$4,855,257	0.89 3.50	\$1,666,00
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$
6	Single Track Section - At Glade Single Track Section - On Streuture	km	\$939,121	0.00	\$0	0.00	\$
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	7.00	\$6,573,84
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$
art	hwork and Related Items		ı				
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$
2	Cut	m3	\$9	667,327.00	\$5,940,294	651,171.00	\$5,796,47
3	Fill	m3	\$9	2,327.00	\$20,714	23,607.00	\$210,14
4 5	Borrow Spoil	m3 m3	\$13.35 \$0.00	0.00 0.00	\$0 \$0	0.00 0.00	\$ \$
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$
7	Fencing (Both Sides of R/W)	km	\$101,733	2.95	\$300,112	4.75	\$483,23
8	Special Drainage Facilities		Earthwork	2.70	\$313,056		\$324,49
	ctures/Tunnels/Walls	270 0					,17
1	Standard Structure	km	\$13,733,933	1.30	\$17,854,113	0.00	\$
2	High Structure	km	\$16,480,720	0.00	\$0	0.64	\$10,564,14
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	3.50	\$194,125,87
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$
9 10	Double Track Drill & Blast Double Track Mined (Soft Soil)	km km	\$83,740,573	0.00 0.00	\$0 \$0	0.00 0.00	<u> </u>
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$96,247,282 \$94,803,899	0.00	\$0 \$0	0.00	3 \$
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$
14	Trench Short	km	\$49,668,587	0.00	\$0	0.15	\$7,450,28
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	3.50	\$6,759,76
17	Retaining Walls	km	\$4,399,945	2.59	\$11,395,858	1.47	\$6,485,51
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$
	le Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	2.00	\$34,334,83
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$F2.701.22
5	Sreet Undercrossing HSR - Urban Sreet Undercrossing HSR - Suburban	EA EA	\$17,930,413 \$6,866,967	2.00 0.00	\$35,860,826 \$0	3.00 0.00	\$53,791,23 \$
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$
7	Street Bridging HSR Trench	EA	\$1,137,211	0.00	\$0	0.00	\$
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$
	and Utility Relocation		,				
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$
5	Major Utility Relocation - Urban	km	\$680,338	0.47	\$319,759	1.69	\$1,149,77
7	Major Utility Relocation - Suburban	km	\$273,407	0.98	\$267,939	3.20	\$874,90
8	Major Utility Relocation - Undeveloped	km	\$13,988	2.81	\$39,307	4.00	\$55,95
igh	nt-of-Way						
1	Right-of-Way Required for Each Segment Urban	hectare	\$2,737,608	0.71	\$1,943,702	2.56	\$7,008,27
	Suburban	hectare	\$479,081	1.49	\$713,831	4.86	\$2,328,33
	Undeveloped	hectare	\$342,201	4.26	\$1,457,776	6.07	\$2,077,16
nvi	ronmental Mitigation						, , 10
	Environmental Mitigation	3% c	f Line Cost		\$2,763,083		\$10,829,
yst	em Elements						
1	Signaling (ATC)	km	\$845,654	4.254	\$3,597,413	8.878	\$7,507,
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	4.254	\$2,975,304	8.878	\$6,209,
3	Wayside Protection System	km	\$67,144	4.254	\$285,629	8.878	\$596,
lec	trification Items		A 100 0/=		#4 000 0==	0.0==	A0.00=
1	Traction Power Supply	km	\$432,365	4.254	\$1,839,279	8.878	\$3,838,
2	Traction Power Distribution	km	\$806,233	4.254	\$3,429,714	8.878	\$7,157,
υg	Program Implementation Costs (PER SCREENING)	25 EO/ of Total	Cost & Droouromant		\$25,240,107		\$97,722,
nn'	Program Implementation Costs tingencies (PER SCREENING)	Z0.0% UI 10tal	Cost & Procurement		\$25,240,196		\$41,122,
J111	Contingencies	25% of Total	Construction Cost		\$24,745,290		\$95,806,
	Il Construction	2576 ULTULA	COLISTI ACTION COST		\$92,102,769		\$95,806,
	o on struction				472,102,109		ψυυυ,703,
	I Construction and Right of Way (Includes Environmental Miti	gation)			\$98,981,161		\$383,226,

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
					it Center tube to		
Λlian	ment Cost				Bay B-1	4th/Townsend	tube to SF Bay
Tracl				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		0.34		0.19	
1	Double Track Section - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0 \$638,602	0.00	\$0
3	Double Track Section - In Tunnel or Subway Double Track Section - In Trench	km km	\$1,878,243 \$1,878,243	0.34	\$638,602	0.19 0.00	\$356,866 \$0
	Single Track Section - Total	km	ψ1,070,243	1.11	40	0.61	40
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	2.22	\$2,084,849	1.22	\$1,145,728
9	Single Track Section - In Trench Freight Double Track - At Grade	km km	\$939,121 \$993,167	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
11	Regional Rail Bay Crossing Estimate		mp Sum	1.03	\$370,512,590	1.03	\$370,512,590
Earth	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
3	Cut Fill	m3 m3	\$9 \$9	0	\$0 \$0	0	\$0 \$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0	0.00	\$0
Str.	Special Drainage Facilities	5% of	Earthwork		\$0		\$0
Struc	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$15,733,933	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7 8	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	2.08 0.00	\$115,366,233 \$0	0.61 0.00	\$33,833,366 \$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.40	\$38,498,913	0.19	\$18,286,984
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14 15	Trench Short Trench Long	km	\$49,668,587 \$39,272,836	0.00	\$0 \$0	0.00 0.00	\$0 \$0
16	Mechanical & Electrical for Tunnels	km km	\$39,272,836	0.00 2.48	\$4,789,778	0.80	\$1,545,090
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$1,545,070
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
	e Separations		*******	0.00	**	0.00	40
2	Sreet Overcrossing HSR - Urban Sreet Overcrossing HSR - Suburban	EA EA	\$17,167,417	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$6,485,469 \$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8 Dail	Minor crossing closure and Utility Relocation	EA	\$178,032	0.00	\$0	0.00	\$0
1		km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	0.00	\$0
8 Righ	Major Utility Relocation - Undeveloped t-of-Way	km	\$13,988	0.00	\$0	0.00	\$0
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	0.00	\$0	0.00	\$0
	Undeveloped	hectare	\$342,201	0.00	\$0	0.00	\$0
Envi	ronmental Mitigation	201	f Line Cost		#4 O/E O/3		#1 700 410
Svet	Environmental Mitigation em Elements	3% 0	f Line Cost		\$4,965,361		\$1,723,460
Jysu	Signaling (ATC)	km	\$845,654	1.45	\$1,226,199	0.80	\$676,523
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	1.45			
3	Wayside Protection System	km	\$67,144	1.45		0.80	
Elect	rification Items						
1	Traction Power Supply	km	\$432,365	1.45		0.80	\$345,892
2 Drog	Traction Power Distribution ram Implementation Costs (PER SCREENING)	km	\$806,233	1.45	\$1,169,038	0.80	\$644,986
rrog	Program Implementation Costs (PER SCREENING) Program Implementation Costs	25.5% of Total	Cost & Procurement		\$43,471,739		\$15,088,896
Cont	ingencies (PER SCREENING)		- 35. a Frocurement	1	ψτυ ₁ τ / 1 / 1 37		\$10,000,070
	Contingencies	25% of Total	Construction Cost		\$42,619,352		\$14,793,035
	Construction				\$165,512,048		\$57,448,681
	Construction and Right of Way (Includes Environmental Mitigation	ation)			\$170,477,409		\$59,172,141
	d Total				\$627,081,091		\$459,566,662

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
						Dumbarton B	ay Crossing to
					West Oakland		dwards
Align Tracl	ment Cost			Quantities	TB-3 Item Cost	DUMBARTON 1 Quantities	(HIGH BRIDGE Item Cost
Haci	Double Track Section-Total	km		0.00	rtem cost	5.01	rtem cost
1	Double Track Section - At Grade	km	\$993,167	0.00	\$0	2.20	\$2,184,967
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	2.81	\$5,274,105
3	Double Track Section - In Tunnel or Subway	km km	\$1,878,243 \$1,878,243	0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Double Track Section - In Trench Single Track Section - Total	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
9	Single Track Section - In Trench Freight Double Track - At Grade	km	\$939,121 \$993,167	0.00	\$0 \$0	0.00 0.00	\$0 \$0
10	Freight Single Track - At Grade	km km	\$496,583	0.00	\$0	0.00	\$0
11	Regional Rail Bay Crossing Estimate		mp Sum	9.23	\$3,334,613,307	5.00	\$486,398,524
Earth	work and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
3	Cut Fill	m3 m3	\$9 \$9	0	\$0 \$0	0	\$0 \$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0	5.90	\$600,224
Struc	Special Drainage Facilities stures/Tunnels/Walls	5% of	Earthwork		\$0		\$30,011
<u> 1</u>	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.81	\$13,349,383
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	2.00	\$57,753,469
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0 \$0	0.00	\$0
7	Twin Single Track Drill & Blast (<6 Miles) Twin Single Track TBM (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.00	\$0	0.00 0.00	\$0 \$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0 \$0	0.00	\$0
12	Crossovers Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.00	\$0	0.00 0.00	\$0 \$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18 19	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.00	\$0 \$0	0.00 0.00	\$0 \$0
	e Separations	KIII	\$30,077,270	0.00	40	0.00	\$ 0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Urban Sreet Undercrossing HSR - Suburban	EA EA	\$17,930,413 \$6,866,967	0.00	\$0 \$0	8.00 0.00	\$143,443,305 \$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation		44.074.444	0.00	**	0.00	40
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km km	\$1,271,661 \$1,271,661	0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	4.04	\$2,748,567
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	1.52	\$414,212
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.00	\$0	4.34	\$60,751
Righ	t-of-Way						
- 1	Right-of-Way Required for Each Segment Urban	hectare	\$2,737,608	0.00	\$0	6.16	\$16,855,454
	Suburban	hectare	\$479,081	0.00	\$0	2.31	\$1,106,199
	Undeveloped	hectare	\$342,201	0.00		2.31	\$790,142
Envir	onmental Mitigation				1		
Cust	Environmental Mitigation	3% 0	f Line Cost		\$0		\$7,204,075
JyST6	em Elements Signaling (ATC)	km	\$845,654	0.0	0 \$0	5.01	\$4,235,036
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	0.0			\$3,502,662
3	Wayside Protection System	km	\$67,144	0.0			
	rification Items						
1	Traction Power Supply	km	\$432,365	0.0			\$2,165,282
2 Drog	Traction Power Distribution ram Implementation Costs (PER SCREENING)	km	\$806,233	0.0	0 \$0	5.01	\$4,037,614
	Program Implementation Costs (PER SCREENING)	25.5% of Total	Cost & Procurement		\$0		\$67,853,387
FIUG					. 90		20.,000,00
	ingencies (PER SCREENING)						
Cont	ingencies (PER SCREENING) Contingencies	25% of Total	Construction Cost		\$0		\$66,522,928
Cont Total	ingencies (PER SCREENING)		Construction Cost		\$0 \$0 \$0		\$66,522,928 \$240,135,843 \$266,091,713

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				Dumbarton Ba	ay Crossing to	Dumbarton Ba	y Crossing to
					dwards	Don Ed	wards
Aligr Tracl	ment Cost			DUMBARTON 1 Quantities	(LOW BRIDGE) Item Cost	DUMBARTO Quantities	N 1 (TUBE) Item Cost
Haci	Double Track Section-Total	km		6.55	i tem cost	5.01	rtem cost
1	Double Track Section - At Grade	km	\$993,167	6.55	\$6,505,243	5.01	\$4,973,780
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km km	\$1,878,243 \$1,878,243	0.00 0.00	\$0 \$0	0.00	\$0 \$0
4	Double Track Section - In Trench Single Track Section - Total	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
9	Single Track Section - In Trench Freight Double Track - At Grade	km km	\$939,121 \$993,167	0.00 0.00	\$0 \$0	0.00	\$0 \$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
11	Regional Rail Bay Crossing Estimate		mp Sum	5.00	\$322,767,859	5.00	\$702,953,999
Earth	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
3	Cut Fill	m3	\$9 \$9	0 0	\$0 \$0	0 .	\$0 \$0
4	Borrow	m3 m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	6.55	\$666,350	5.90	\$600,224
8 Stru	Special Drainage Facilities ctures/Tunnels/Walls	5% of	Earthwork		\$33,318		\$30,011
Struc 1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5 6	Waterway Crossing - Secondary (Irrigation/Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km	\$23,119,226	0.00	\$0	0.00	\$0
7	Twin Single Track Drill & Blast (<6 Miles)	km km	\$75,040,254 \$55,464,535	0.00 0.00	\$0 \$0	0.00	\$0 \$0
8	Twin Single Track TBM (<0 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Crossovers Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.00 0.00	\$0 \$0	0.00	\$0 \$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18 19	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.00 0.00	\$0 \$0	0.00	\$0 \$0
	e Separations	KIII	\$30,077,270	0.00	ΨΟ	0.00	40
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Urban Sreet Undercrossing HSR - Suburban	EA EA	\$17,930,413 \$6,866,967	8.00 0.00	\$143,443,305 \$0	8.00 0.00	\$143,443,305 \$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation		*****				
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km km	\$1,271,661 \$1,271,661	0.00 0.00	\$0 \$0	0.00	\$0 \$0
3	Single Track Renoval	km	\$1,271,001	0.00	\$0	0.00	\$0 \$0
5	Major Utility Relocation - Urban	km	\$680,338	4.08	\$2,775,781	6.04	\$4,109,244
7	Major Utility Relocation - Suburban	km	\$273,407	1.53	\$418,313	2.27	\$619,267
8	Major Utility Relocation - Undeveloped	km	\$13,988	4.39	\$61,353	6.49	\$90,826
Righ	t-of-Way Right-of-Way Required for Each Segment			1		П	
- 1	Urban	hectare	\$2,737,608	6.22	\$17,022,448	9.21	\$25,199,684
	Suburban	hectare	\$479,081	2.33	\$1,117,218	3.45	\$1,653,789
	Undeveloped	hectare	\$342,201	2.33	\$798,013	3.45	\$1,181,278
Envi	ronmental Mitigation		f11 0 :	T.			
Cust	Environmental Mitigation em Elements	3% 0	f Line Cost		\$5,177,294		\$5,044,305
JySte	Signaling (ATC)	km	\$845,654	6.55	\$5,539,035	5.01	\$4,235,036
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	6.55	\$4,581,157	5.01	\$3,502,662
3	Wayside Protection System	km	\$67,144	6.55	\$439,791	5.01	\$336,256
	rification Items						
1	Traction Power Supply	km	\$432,365	6.55	\$2,831,988	5.01	\$2,165,282
2	Traction Power Distribution ram Implementation Costs (PER SCREENING)	km	\$806,233	6.55	\$5,280,825	5.01	\$4,037,614
Droc	Program Implementation Costs (PER SCREENING)	25.5% of Total	Cost & Procurement		\$50,156,314		\$51,311,753
Prog				i	400,100,014		\$5. ₁ 511 ₁ 750
	ingencies (PER SCREENING)	20.070 01 10101					
Cont	ingencies (PER SCREENING) Contingencies		Construction Cost		\$49,172,857		
Cont Tota	ingencies (PER SCREENING)	25% of Total	Construction Cost		\$49,172,857 \$172,576,457 \$196,691,429		\$50,305,640 \$168,143,505 \$201,222,560

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
0.17				Dumbarton Ba	lwards	Dumbarton W Caltra	ain
Align	ment Cost			DUMBARTON 2 Quantities	(HIGH BRIDGE) Item Cost	DUMBART Quantities	Item Cost
Hace	Double Track Section-Total	km		8.00	rtem cost	2.20	rtem cost
1	Double Track Section - At Grade	km	\$993,167	0.00	\$0	2.20	\$2,184,967
2	Double Track Section - On Structure	km	\$1,878,243	8.00	\$15,025,941	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
_	Single Track Section - Total	km	* 407 500	0.00	40	0.00	40
5	Single Track Section - At Grade Single Track Section - On Strcuture	km	\$496,583 \$939,121	0.00 0.00	\$0	0.00 0.00	\$0 \$0
7	Single Track Section - On Structure Single Track Section - In Tunnel or Subway	km km	\$939,121	0.00	\$0 \$0	0.00	\$0 \$0
8	Single Track Section - In Trainer of Subway	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
11	Regional Rail Bay Crossing Estimate	Lu	mp Sum	5.00	\$486,398,524	0.00	\$0
Earth	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0	\$0	16,280	\$144,918
3	Fill	m3	\$9	107,820	\$959,773	0 _	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil Cut/Fill Slopes (Landscaping/Erosion Control)	m3 hectare	\$0.00 \$8,075	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0 \$0	2.20	\$223,812
8	Special Drainage Facilities		Earthwork	0.00	\$47,989	2.20	\$18,437
	ctures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	8.00	\$131,845,761	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0 \$0
7	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	0.00	\$0 \$0	0.00 0.00	\$0 \$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19 Crad	Single Track Cut and Cover Subway e Separations	km	\$30,077,276	0.00	\$0	0.00	\$0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	5.00	\$89,652,066
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation	Long	A1 071 //1	0.00	40	0.00	40
2	Single Track Relocation (temporary)	km	\$1,271,661 \$1,271,661	0.00	\$0 \$0	0.00	\$0 \$0
3	Single Track Relocation (permanent) Single Track Removal	km km	\$1,271,661 \$63,372	0.00	\$0 \$0	0.00 0.00	\$0 \$0
5	Major Utility Relocation - Urban	km	\$680,338	3.50	\$2,381,388	1.19	\$808,242
7	Major Utility Relocation - Suburban	km	\$273,407	6.28	\$1,716,012	0.01	\$3,281
8	Major Utility Relocation - Undeveloped	km	\$13,988	1.21	\$16,884	0.00	\$5,201
	t-of-Way			1121	1.2/001	3.00	40
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	5.33	\$14,602,402	1.81	\$4,941,383
	Suburban	hectare	\$479,081	11.22	\$5,375,772	0.02	\$11,498
	Undeveloped	hectare	\$342,201	1.84	\$629,479	0.00	\$0
Envir	ronmental Mitigation	201	films Cost		dE 044.001	1	¢2.070.005
Syste	Environmental Mitigation em Elements	3% 0	f Line Cost		\$5,244,006		\$2,979,225
Syste	Signaling (ATC)	km	\$845,654	8.00	\$6,765,234	2.20	\$1,860,439
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	8.00	\$5,595,306	2.20	\$1,538,709
3	Wayside Protection System	km	\$67,144	8.00	\$537,149	2.20	\$1,338,709
	rification Items		\$5,,,,,	2.00	1007,117	2.20	÷1177710
1	Traction Power Supply	km	\$432,365	8.00	\$3,458,917	2.20	\$951,202
2	Traction Power Distribution	km	\$806,233	8.00	\$6,449,862	2.20	\$1,773,712
	ram Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$51,166,228		\$27,346,100
Conti	ingencies (PER SCREENING)						
	Contingencies	25% of Total	Construction Cost		\$50,162,969		\$26,809,902
	Construction				\$174,800,215		\$99,307,501
	Construction and Right of Way (Includes Environmental Mitig	ation)			\$200,651,875		\$107,239,607
Gran	d Total				\$788,379,595		\$161,395,609

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				Dumbarton W	ye South to		
				Caltra		Fremont Ce	
Aligr Trac	nment Cost			DUMBAR Quantities	Item Cost	FREMONT CP (F	Item Cost
пас	Double Track Section-Total	km		0.96	Hem Cost	12.69	Hem Cost
1	Double Track Section - At Grade	km	\$993,167	0.96	\$953,440	1.18	\$1,171,937
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	6.04	\$11,344,585
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	4.69	\$8,808,958
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.78	\$1,465,029
-	Single Track Section - Total	km	£407 E03	0.00	¢0	1.50	¢0
5 6	Single Track Section - At Grade Single Track Section - On Strcuture	km km	\$496,583 \$939,121	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Single Track Section - On Structure Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0 \$0	3.00	\$2,817,364
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
11	Regional Rail Bay Crossing Estimate	Lui	mp Sum	0.00	\$0	5.00	\$486,398,524
	hwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
3	Cut Fill	m3	\$9 \$9	5,920 <u> </u>	\$52,698 \$0	0 0	\$0 \$0
4	Borrow	m3 m3	\$9 \$13.35	0.00	\$0 \$0	0.00	\$0 \$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0 \$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.96	\$97,664	5.06	\$514,768
8	Special Drainage Facilities		Earthwork		\$7,518		\$25,738
	ctures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	0.00	\$0	2.45	\$33,648,137
2	High Structure	km	\$16,480,720	0.00	\$0	3.49	\$57,517,713
3	Long Span Structure Waterway Crossing - Primary	km	\$37,577,568	0.00	\$0 \$0	0.00 0.00	\$0
5	Waterway Crossing - Primary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km km	\$28,876,734 \$23,119,226	0.00 0.00	\$0 \$0	0.00 _	\$0 \$2,311,923
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$2,311,923
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	1.50	\$83,196,803
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	4.69	\$225,699,876
14 15	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	6.19	\$11,955,132
17	Retaining Walls	km	\$4,399,945	0.00	\$0	1.16	\$5,103,937
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	le Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	4.00	\$68,669,667
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped Sreet Undercrossing HSR - Urban	EA	\$1,093,628	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Orban Sreet Undercrossing HSR - Suburban	EA EA	\$17,930,413 \$6,866,967	0.00 0.00	\$0 \$0	9.00 0.00	\$161,373,718 \$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5 7	Major Utility Relocation - Urban	km	\$680,338	0.88	\$600,875	5.90	\$4,013,656
/	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	0.08 0.00	\$20,998 \$0	4.59 5.46	\$1,254,528 \$76,411
		NIII	φ13,700	0.00	ΦU	3.40	\$10,411
8	t-of-Wav						
8	t-of-Way Right-of-Way Required for Each Segment						
8		hectare	\$2,737,608	1.35	\$3,684,821	13.32	\$36,464,942
8	Right-of-Way Required for Each Segment Urban Suburban	hectare hectare	\$2,737,608 \$479,081	1.35 0.12	\$3,684,821 \$56,053	13.32 9.32	\$36,464,942 \$4,466,954
8 Righ 1	Right-of-Way Required for Each Segment Urban Suburban Undeveloped						
8 Righ 1	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation	hectare hectare	\$479,081 \$342,201	0.12	\$56,053 \$0	9.32	\$4,466,954 \$3,646,493
8 Righ 1	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation	hectare hectare	\$479,081	0.12	\$56,053	9.32	\$4,466,954
8 Righ 1	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements	hectare hectare	\$479,081 \$342,201 f Line Cost	0.12 0.00	\$56,053 \$0 \$134,099	9.32 10.66	\$4,466,954 \$3,646,493 \$21,642,686
8 Righ 1 Envi	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC)	hectare hectare 3% o	\$479,081 \$342,201 f Line Cost	0.12 0.00	\$56,053 \$0 \$134,099 \$811,828	9.32 10.66	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834
8 Righ 1 Envi	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone)	hectare hectare 3% o	\$479,081 \$342,201 f Line Cost \$845,654 \$699,413	0.12 0.00 0.96 0.96	\$56,053 \$0 \$134,099 \$811,828 \$671,437	9.32 10.66 14.19 14.19	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834 \$9,924,674
8 Righ 1 Envi	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC)	hectare hectare 3% o	\$479,081 \$342,201 f Line Cost	0.12 0.00	\$56,053 \$0 \$134,099 \$811,828	9.32 10.66	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834
8 Righ 1 Envi	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply	hectare hectare 3% o	\$479,081 \$342,201 f Line Cost \$845,654 \$699,413	0.12 0.00 0.96 0.96 0.96	\$56,053 \$0 \$134,099 \$811,828 \$671,437 \$64,458	9.32 10.66 10.66 14.19 14.19 14.19	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834 \$9,924,674 \$952,769 \$6,135,253
System 1 2 3 Elect 1 2	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply Traction Power Distribution	hectare hectare 3% o km km km	\$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144	0.12 0.00 0.96 0.96 0.96	\$56,053 \$0 \$134,099 \$811,828 \$671,437 \$64,458	9.32 10.66 14.19 14.19 14.19	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834 \$9,924,674 \$952,769 \$6,135,253
System 1 2 3 Elect 1 2	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING)	hectare hectare 3% o km km km km	\$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	0.12 0.00 0.96 0.96 0.96	\$56,053 \$0 \$134,099 \$811,828 \$671,437 \$64,458 \$415,070 \$773,983	9.32 10.66 10.66 14.19 14.19 14.19	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834 \$9,924,674 \$952,769 \$6,135,253 \$11,440,443
8 Righ 1 Envi	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs	hectare hectare 3% o km km km km	\$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144	0.12 0.00 0.96 0.96 0.96	\$56,053 \$0 \$134,099 \$811,828 \$671,437 \$64,458	9.32 10.66 10.66 14.19 14.19 14.19	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834 \$9,924,674 \$952,769
8 Righ 1 Envi	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	hectare hectare 3% o km km km km 25.5% of Total	\$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233 Cost & Procurement	0.12 0.00 0.96 0.96 0.96	\$56,053 \$0 \$134,099 \$811,828 \$671,437 \$64,458 \$415,070 \$773,983 \$2,127,960	9.32 10.66 10.66 14.19 14.19 14.19	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834 \$9,924,674 \$952,769 \$6,135,253 \$11,440,443 \$200,849,201
8 Righ 1 Envi Syst. 1 2 3 Elect 1 2 Prog	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs tingencies (PER SCREENING) Contingencies	hectare hectare 3% o km km km km 25.5% of Total	\$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233	0.12 0.00 0.96 0.96 0.96	\$56,053 \$0 \$134,099 \$811,828 \$671,437 \$64,458 \$415,070 \$773,983 \$2,127,960 \$2,086,235	9.32 10.66 10.66 14.19 14.19 14.19	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834 \$9,924,674 \$952,769 \$6,135,253 \$11,440,443 \$200,849,201 \$196,910,982
8 Righ 1 Envi Syst 1 2 3 Elect 1 2 Prog	Right-of-Way Required for Each Segment Urban Suburban Undeveloped ronmental Mitigation Environmental Mitigation em Elements Signaling (ATC) Communications (w/Fiber Optic Backbone) Wayside Protection System trification I tems Traction Power Supply Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	hectare hectare 3% o km km km km km 25.5% of Total	\$479,081 \$342,201 f Line Cost \$845,654 \$699,413 \$67,144 \$432,365 \$806,233 Cost & Procurement	0.12 0.00 0.96 0.96 0.96	\$56,053 \$0 \$134,099 \$811,828 \$671,437 \$64,458 \$415,070 \$773,983 \$2,127,960	9.32 10.66 10.66 14.19 14.19 14.19	\$4,466,954 \$3,646,493 \$21,642,686 \$11,999,834 \$9,924,674 \$952,769 \$6,135,253 \$11,440,443

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				Fremont Ce		Fremont Ce	
	ment Cost			FREMONT CP (FREMONT	
racl	Double Track Section-Total	km		Quantities 13.73	Item Cost	Quantities 15.27	Item Cost
1	Double Track Section - At Grade	km	\$993.167	7.11	\$7,061,416	3.55	\$3,525,742
2	Double Track Section - On Structure	km	\$1,878,243	1.15	\$2,159,979	6.25	\$11,739,016
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	4.69	\$8,808,958	4.69	\$8,808,958
4	Double Track Section - In Trench	km	\$1,878,243	0.78	\$1,465,029	0.78	\$1,465,029
	Single Track Section - Total	km		1.50		1.50	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$(
7	Single Track Section - On Streuture	km	\$939,121	0.00	\$0 \$2,817,364	0.00 3.00	\$2 017 24
8	Single Track Section - In Tunnel or Subway Single Track Section - In Trench	km km	\$939,121 \$939,121	3.00 0.00	\$2,817,364	0.00	\$2,817,36
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0 \$0	0.00	\$
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$
11	Regional Rail Bay Crossing Estimate		mp Sum	5.00	\$322,767,859	5.00	\$702,953,99
arth	nwork and Related Items		•				
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$
2	Cut	m3	\$9	0	\$0	0	\$
3	FIII	m3	\$9	0	\$0	0	\$
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$
7	Cut/Fill Slopes (Landscaping/Erosion Control) Fencing (Both Sides of R/W)	hectare km	\$8,075 \$101,733	0.00 8.41	\$0 \$855,573	0.00 5.06	\$ \$514,76
8	Special Drainage Facilities		Earthwork	0.41	\$42,779	5.00	\$25,73
	ctures/Tunnels/Walls	570 0			ψ TZ,117		Ψ 2 0,73
1	Standard Structure	km	\$13,733,933	1.05	\$14,420,630	2.55	\$35,021,53
2	High Structure	km	\$16,480,720	0.10	\$1,648,072	3.70	\$60,978,66
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.10	\$2,311,923	0.10	\$2,311,92
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	1.50	\$83,196,803	1.50	\$83,196,80
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$
9 10	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	<u> </u>
11	Double Track Mined (Soft Soil) Seismic Chamber (Drill & Blast/Mined)	km	\$96,247,282 \$94,803,899	0.00	\$0 \$0	0.00	<u> </u>
12	Crossovers	ea ea	\$94,803,899	0.00	\$0 \$0	0.00	\$
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	4.69	\$225,699,876	4.69	\$225,699,87
14	Trench Short	km	\$49,668,587	0.78	\$38,741,498	0.00	\$225,677,67
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	6.19	\$11,955,132	6.19	\$11,955,13
17	Retaining Walls	km	\$4,399,945	1.16	\$5,103,937	1.56	\$6,863,91
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$
	e Separations		447.447.447		********		410.110.11
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	4.00	\$68,669,667	4.00	\$68,669,66
2	Sreet Overcrossing HSR - Suburban	EA EA	\$6,485,469	0.00	\$0 \$0	0.00	\$
4	Sreet Overcrossing HSR - Undeveloped Sreet Undercrossing HSR - Urban	EA	\$1,093,628 \$17,930,413	9.00	\$161,373,718	9.00	\$161,373,71
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$101,373,718	0.00	\$101,373,71
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$
ail a	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$ 4 040 (5
5	Major Utility Relocation - Urban	km	\$680,338	5.91	\$4,022,841	5.90	\$4,013,65
7	Major Utility Relocation - Suburban	km	\$273,407	4.60	\$1,257,399	4.59	\$1,254,52
8	Major Utility Relocation - Undeveloped	km	\$13,988	5.48	\$76,586	5.46	\$76,41
1 1	t-of-Way Right-of-Way Required for Each Segment						
-	Urban	hectare	\$2,737,608	13.35	\$36,547,070	13.32	\$36,464,94
	Suburban	hectare	\$479,081	9.35	\$4,477,015	9.32	\$4,466,95
	Undeveloped	hectare	\$342,201	10.68	\$3,654,706	10.66	\$3,646,49
nvir	onmental Mitigation		<u> </u>				
	Environmental Mitigation	3% c	f Line Cost		\$20,553,210		\$22,143,
yste	em Elements				***		
1	Signaling (ATC)	km	\$845,654	15.23	\$12,879,314	16.77	\$14,181,
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	15.23	\$10,652,064	16.77	\$11,729,
3	Wayside Protection System	km	\$67,144	15.23	\$1,022,598	16.77	\$1,125,
	Traction Downs Supply	Irms	¢422.275	15.00	¢4 F04 040	47 22	¢7.0F0
2	Traction Power Supply Traction Power Distribution	km	\$432,365	15.23 15.23	\$6,584,912 \$12,278,925	16.77 16.77	\$7,250, \$12,520
	ram Implementation Costs (PER SCREENING)	km	\$806,233	10.23	φ12,210,723	10.77	\$13,520,
ug	Program Implementation Costs (PER SCREENING)	25.5% of Total	Cost & Procurement		\$191,336,443		\$205,234,
nnt	ingencies (PER SCREENING)	20.070 UL TUIAL	OUSE & FIOCUIEITEM		ψ171,330,443		ΨΖΟυ,ΖΟ4,
Jiil	Contingencies	25% of Total	Construction Cost	I	\$187,584,748		\$201,210,
otal	Construction	2570 01 10181			\$685,106,991		\$738,120,
	Construction and Right of Way (Includes Environmental Miti	gation)			\$750,338,992		\$804,842,

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				Dumbarton B	ay Crossing to	Dumbarton Ba	y Crossina to
					dwards	Don Ed	
	ment Cost				(LOW BRIDGE)	DUMBARTO	
racl	Double Track Section-Total	km		Quantities 8.00	Item Cost	Quantities 8.00	Item Cost
1	Double Track Section - At Grade	km	\$993,167	0.00	\$0	0.52	\$516,447
2	Double Track Section - At Grade Double Track Section - On Structure	km	\$1,878,243	8.00	\$15,025,941	6.65	\$12,490,313
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.83	\$1,558,941
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Streuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121 \$939,121	0.00	\$0 \$0	0.00	\$C \$C
9	Single Track Section - In Trench Freight Double Track - At Grade	km km	\$939,121	0.00	\$0	0.00 0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
11	Regional Rail Bay Crossing Estimate		mp Sum	5.00	\$322,767,859	5.00	\$702,953,999
	nwork and Related Items		- P				, ,
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0	\$0	0	\$0
3	Fill	m3	\$9	107,820	\$959,773	137,820	\$1,226,822
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$(
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
7	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare km	\$8,075 \$101,733	0.00	\$0 \$0	0.00 1.30	\$122.25
8	Fencing (Both Sides of R/W) Special Drainage Facilities		Earthwork	0.00	\$47,989	1.30	\$132,25 \$67,95
	tures/Tunnels/Walls	3 /6 ()	Lai triwork		ψΨ1,707		ψU1,704
1	Standard Structure	km	\$13,733,933	0.00	\$0	1.20	\$16,480,720
2	High Structure	km	\$16,480,720	8.00	\$131,845,761	5.35	\$88,171,85
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.10	\$2,887,67
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$(
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$(
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$(
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$1
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$
11 12	Seismic Chamber (Drill & Blast/Mined) Crossovers	ea ea	\$94,803,899 \$94,803,899	0.00	\$0 \$0	0.00 0.00	\$(\$(
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$
14	Trench Short	km	\$49,668,587	0.00	\$0	0.83	\$41,224,92
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$41,224,72
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$(
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$(
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$(
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$(
rad	e Separations		1				
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$1
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$1
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$(
5	Sreet Undercrossing HSR - Urban	EA EA	\$17,930,413 \$6,866,967	0.00	\$0 \$0	0.00 0.00	\$
6	Sreet Undercrossing HSR - Suburban Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$(\$(
7	Street Bridging HSR Trench	EA	\$1,137,211	0.00	\$0	0.00	\$1
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$
	and Utility Relocation	- EN	\$ 1.70,00Z	0.00	40	3.00	<u> </u>
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$
5	Major Utility Relocation - Urban	km	\$680,338	3.50	\$2,381,388	3.50	\$2,381,38
7	Major Utility Relocation - Suburban	km	\$273,407	6.28	\$1,716,012	6.28	\$1,716,01
8	Major Utility Relocation - Undeveloped	km	\$13,988	1.21	\$16,884	1.21	\$16,88
igh	t-of-Way						
1	Right-of-Way Required for Each Segment	J A	#0 707 /00	F 00	#14 (OO 400	F 32	¢14 (00 to
	Urban Suburban	hectare	\$2,737,608 \$479,081	5.33	\$14,602,402 \$5,375,772	5.33	\$14,602,40 \$5,375,77
	Undeveloped	hectare hectare	\$479,081 \$342,201	11.22 1.84	\$5,375,772 \$629,479	11.22 1.84	\$5,375,77 \$629,47
nvir	ronmental Mitigation	nectare	ψ34Z,ZUI	1.04	ΨUZ7,417	1.04	ψ027,47
	Environmental Mitigation	3% n	f Line Cost		\$5,244,006		\$5,750,3
yste	em Elements	2,00					. 27. 207
1	Signaling (ATC)	km	\$845,654	8.00	\$6,765,234	8.00	\$6,765,2
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	8.00	\$5,595,306	8.00	\$5,595,3
3	Wayside Protection System	km	\$67,144	8.00	\$537,149	8.00	\$537,
lect	rification Items						
1	Traction Power Supply	km	\$432,365	8.00		8.00	\$3,458,9
2	Traction Power Distribution	km	\$806,233	8.00	\$6,449,862	8.00	\$6,449,8
rog	ram Implementation Costs (PER SCREENING)	05.50/ 5=	04.0.5		AF-1-1-1		A==
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$51,166,228		\$55,599,
ont	ingencies (PER SCREENING)	2F0/ af T-1-1	Construction Cost		¢E0 1/2 0/0		¢E4 F00
	Contingencies Construction	25% Of Total	Construction Cost		\$50,162,969 \$174,800,215		\$54,509,7 \$191,678,6
	CONSTRUCTION				\$174,800,215		\$141,018
	Construction and Right of Way (Includes Environmental Miti	gation)			\$200,651,875		\$218,036,0

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				North Stockton	South to UPRR		
۸۱:	amont Cost			Conne		BNSF Parallel to	
Trac	nment Cost k			BNSF N Quantities	Item Cost	BNSF N. Quantities	Item Cost
	Double Track Section-Total	km		17.50		3.50	
1	Double Track Section - At Grade	km	\$993,167	17.50	\$17,380,420	3.50	\$3,476,084
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.00	\$0
3	Double Track Section - In Tunnel or Subway Double Track Section - In Trench	km km	\$1,878,243 \$1,878,243	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	Single Track Section - Total	km	\$1,070,240	0.00	Ψ0	0.00	Ψ0
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
9	Single Track Section - In Trench Freight Double Track - At Grade	km km	\$939,121 \$993,167	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0 \$0	0.00	\$0
	nwork and Related Items		\$1707000	0.00	45	0.00	
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	232,750	\$2,071,853	46,550	\$414,371
3	Fill Borrow	m3 m3	\$9 \$13.35	0.00	\$0 \$0	0.00	\$0 \$0
5	Spoil	m3	\$0.00	0.00	\$0 \$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	17.50	\$1,780,325	3.50	\$356,065
8	Special Drainage Facilities	5% of	f Earthwork		\$192,609		\$38,522
	ctures/Tunnels/Walls Standard Structure	Irms	¢12 722 022	0.00	¢c.	0.00	60
2	High Structure	km km	\$13,733,933 \$16,480,720	0.00	\$0 \$0	0.00	\$0 \$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.10	\$2,887,673	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.15	\$3,467,884	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7 8	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0 \$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14 15	Trench Short Trench Long	km km	\$49,668,587 \$39,272,836	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grac	le Separations Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	7.00	\$7,655,396	2.00	\$2,187,256
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench Minor crossing closure	EA EA	\$0 \$178,032	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	and Utility Relocation	LA	\$170,032	0.00	40	0.00	Ψ0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5 7	Major Utility Relocation - Urban Major Utility Relocation - Suburban	km km	\$680,338 \$273,407	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
8	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km	\$273,407	17.50	\$0 \$244,795	3.50	\$48,959
	t-of-Way	KIII	ψ15,750	17.50	Ψ <u>Ε</u> 14,775	3.00	\$ 10,737
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	0.00	\$0	0.00	\$0
Envi	Undeveloped ronmental Mitigation	hectare	\$342,201	26.60	\$9,102,546	5.32	\$1,820,509
LIIVI	Environmental Mitigation	3% 0	f Line Cost		\$2,567,103		\$494,973
Syst	em Elements			<u> </u>	. ,221,100		, . , . , .
1	Signaling (ATC)	km	\$845,654	17.50	\$14,798,949	3.500	\$2,959,790
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	17.50	\$12,239,732	3.500	\$2,447,946
3 Floor	Wayside Protection System	km	\$67,144	17.50	\$1,175,014	3.500	\$235,003
_iec1	rification Items Traction Power Supply	km	\$432,365	17.50	\$7,566,380	3.500	\$1,513,276
2	Traction Power Distribution	km	\$806,233	17.50	\$14,109,073	3.500	\$2,821,815
	ram Implementation Costs (PER SCREENING)						
Prog	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$24,796,137		\$4,797,715
	ingencies (PER SCREENING)	0E0/ CT : :	Construction C	1	#04 000 00°	T	647007.5
Cont	Contingencies	25% of Total	Construction Cost		\$24,309,938 \$85,570,104		
Cont Tota			Construction Cost		\$24,309,938 \$85,570,104 \$97,239,752		\$4,703,642 \$16,499,086 \$18,814,568

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				Esc	South through	Escaton Souti	more
racl	ment Cost			Quantities	N/S-3 Item Cost	BNSF N Quantities	Item Cost
Iaci	Double Track Section-Total	km		13.55	rtem cost	13.85	rtem cost
1	Double Track Section - At Grade	km	\$993,167	12.00	\$11,918,002	11.85	\$11,769,027
2	Double Track Section - On Structure	km	\$1,878,243	1.55	\$2,911,276	2.00	\$3,756,485
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$C
	Single Track Section - Total	km		0.00		0.00	-
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$C
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
artl	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$(
2	Cut	m3	\$9	135,660	\$1,207,594	102,084	\$908,713
3	Fill	m3	\$9	116,375	\$1,035,926	2,194,500	\$19,534,613
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	10.85	\$1,103,801	8.45	\$859,643
8	Special Drainage Facilities	5% of	Earthwork		\$167,366		\$1,065,148
tru	tures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	1.55	\$21,287,597	2.00	\$27,467,867
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$(
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.10	\$2,887,673
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.05	\$1,155,961
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$(
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$C
17	Retaining Walls	km	\$4,399,945	1.15	\$5,059,937	1.20	\$5,279,934
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$C
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
rad	e Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	1.00	\$17,167,417	2.00	\$34,334,834
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	8.00	\$8,749,024	3.00	\$3,280,88
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$(
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$(
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$(
	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$(
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	1.08	\$737,487	2.22	\$1,510,35
7	Major Utility Relocation - Suburban	km	\$273,407	2.03	\$555,700	0.69	\$188,65
8	Major Utility Relocation - Undeveloped	km	\$13,988	10.43	\$145,947	10.94	\$153,03
igh	t-of-Way						
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	1.65	\$4,511,578	3.37	\$9,225,740
	Suburban	hectare	\$479,081	3.09	\$1,479,882	1.05	\$503,035
	Undeveloped	hectare	\$342,201	15.86	\$5,426,965	16.63	\$5,690,802
nvii	onmental Mitigation						
	Environmental Mitigation	3% 0	f Line Cost		\$3,320,266		\$4,609,0
yst	em Elements						
1	Signaling (ATC)	km	\$845,654	13.550	\$11,458,615	13.850	\$11,712,3
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	13.550	\$9,477,050	13.850	\$9,686,8
3	Wayside Protection System	km	\$67,144	13.550	\$909,797	13.850	\$929,9
lect	rification Items						
1	Traction Power Supply	km	\$432,365	13.550	\$5,858,540	13.850	\$5,988,2
2	Traction Power Distribution	km	\$806,233	13.550	\$10,924,454	13.850	\$11,166,
rog	ram Implementation Costs (PER SCREENING)						
_	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$31,980,626		\$44,284,6
ont	ingencies (PER SCREENING)			,			
	Contingencies	25% of Total	Construction Cost		\$31,353,555		\$43,416,3
ota	Construction				\$110,675,530		\$153,636,
	Construction and Right of Way (Includes Environmental Mi	tigation)			\$125,414,222		\$173,665,
ota							

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
Alian	ment Cost			Amtrak Brig UPRR/BNSF BNSF I	Connection	UPRR/BNSF Co Atwat BNSF N	ter
Trac				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		39.85		6.30	
1	Double Track Section - At Grade	km	\$993,167	37.45	\$37,194,099	6.30	\$6,256,951
2	Double Track Section - On Structure	km	\$1,878,243	2.40	\$4,507,782	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - At Grade Single Track Section - On Strouture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - On Streature Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0 \$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Eartl	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	443,778	\$3,950,345	83,790	\$745,867
3	Fill	m3	\$9	251,550	\$2,239,203	0	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6 7	Cut/Fill Slopes (Landscaping/Erosion Control) Fencing (Both Sides of R/W)	hectare km	\$8,075 \$101,733	0.00 34.75	\$0 \$3,535,216	0.00 6.30	\$0 \$640,917
8	Special Drainage Facilities		\$101,733 Earthwork	34.75	\$3,535,216 \$486,238	0.30	\$640,917
	special Drainage Facilities	3 % 01	Lai HIWUI K		φ400,230		φ07,339
1	Standard Structure	km	\$13,733,933	2.40	\$32,961,440	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.20	\$5,775,347	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.25	\$5,779,806	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16 17	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0 \$0	0.00	\$0 \$0
18	Retaining Walls Containment Walls	km km	\$4,399,945 \$1,500,559	0.00 0.00	\$0	0.00 0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0 \$0
	e Separations	KIII	\$30,077,270	0.00	Φ0	0.00	- 30
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	9.00	\$154,506,751	2.00	\$34,334,834
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	13.00	\$14,217,164	2.00	\$2,187,256
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5 7	Major Utility Relocation - Urban Major Utility Relocation - Suburban	km	\$680,338	0.00	\$1 624 074	0.00	\$0 \$E14 720
8	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	5.98 33.87	\$1,634,974 \$473,783	1.89 4.41	\$516,739 \$61,688
_	t-of-Way	KIII	\$13,700	33.01	φ4/3,/03	4.41	φ01,008
Rign 1	Right-of-Way Required for Each Segment			ı			
- '-	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	9.09	\$4,354,849	2.87	\$1,376,401
	Undeveloped	hectare	\$342,201	51.49	\$17,619,927	6.70	\$2,292,746
Envi	ronmental Mitigation						, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	Environmental Mitigation	3% 0	f Line Cost		\$11,426,006		\$1,883,211
	em Elements						
1	Signaling (ATC)	km	\$845,654	39.850	\$33,699,321	6.300	\$5,327,622
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	39.850	\$27,871,619	6.300	\$4,406,304
	Wayside Protection System	km	\$67,144	39.850	\$2,675,675	6.300	\$423,005
3	rification Items		# 100 O/F	20.055	#47.000.70°		60 700 53
_	Totalian Barras Creati	km	\$432,365	39.850 39.850	\$17,229,728 \$32,128,375	6.300	\$2,723,897
Elect	Traction Power Supply			30 850	× (7 T)R 3 /5	6.300	\$5,079,266
1 2	Traction Power Distribution	km	\$806,233	37.030	\$32,120,373		
1 2	Traction Power Distribution ram Implementation Costs (PER SCREENING)	km		37.030			¢17 400 4 44
1 2 Prog	Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs	km	Cost & Procurement	37.000	\$105,638,251		\$17,423,141
1 2 Prog	Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km 25.5% of Total	Cost & Procurement	37.030	\$105,638,251		\$17,423,141
1 2 Prog	Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING) Contingencies	km 25.5% of Total		37.030	\$105,638,251 \$103,566,913		\$17,081,511
Prog Cont	Traction Power Distribution ram Implementation Costs (PER SCREENING) Program Implementation Costs ingencies (PER SCREENING)	km 25.5% of Total 25% of Total	Cost & Procurement	37.030	\$105,638,251		\$17,423,141 \$17,081,511 \$62,773,685 \$68,326,043

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
Aliam	mont Cost			Atwater to Dow		Merced Sout Connec	ction
Tracl	ment Cost			Quantities	Item Cost	Quantities	Item Cost
· · · · ·	Double Track Section-Total	km		17.00	rtem oost	8.00	rtem oost
1	Double Track Section - At Grade	km	\$993,167	17.00	\$16,883,837	8.00	\$7,945,335
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
9	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
10	Freight Double Track - At Grade Freight Single Track - At Grade	km	\$993,167 \$496,583	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	work and Related Items	km	\$490,383	0.00	\$0	0.00	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$12,001	217,324	\$1,934,536	162,810	\$1,449,273
3	Fill	m3	\$9	0	\$0	0	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	14.75	\$1,500,559	4.25	\$432,365
8	Special Drainage Facilities		f Earthwork		\$171,755		\$94,082
	tures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.15	\$3,467,884	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16 17	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0 \$0	0.00	\$0
18	Retaining Walls Containment Walls	km km	\$4,399,945 \$1,500,559	0.00	\$0	0.00 0.00	\$0 \$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0 \$0
	e Separations	KIII	\$30,077,270	0.00	\$0	0.00	\$0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	11.00	\$188,841,585	7.00	\$120,171,918
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$100,041,303	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	3.00	\$3,280,884	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
Rail a	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	2.04	\$1,387,890	2.24	\$1,523,958
7	Major Utility Relocation - Suburban	km	\$273,407	1.36	\$371,834	4.80	\$1,312,354
8	Major Utility Relocation - Undeveloped	km	\$13,988	11.39	\$159,326	0.96	\$13,429
	-of-Way						
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	3.10	\$8,486,586	3.40	\$9,307,868
	Suburban	hectare	\$479,081	2.07	\$991,698	7.30	\$3,497,294
	Undeveloped	hectare	\$342,201	17.31	\$5,924,525	1.46	\$499,613
nvir	onmental Mitigation	001	films Ossi		67.000.04=1	-	A / / 70 :=:
`wat	Environmental Mitigation	3% 0	f Line Cost		\$7,993,915		\$4,672,47
	em Elements Signaling (ATC)	lm	\$01E 4E4	17.000	¢1/ 27/ 122	9.000	¢6.74E.22
1	Signaling (ATC) Communications (w/Fibor Ontic Rackbone)	km	\$845,654	17.000	\$14,376,122	8.000	\$6,765,23
3	Communications (w/Fiber Optic Backbone) Wayside Protection System	km	\$699,413 \$67,144	17.000 17.000	\$11,890,026 \$1,141,442	8.000 8.000	\$5,595,30 \$537.14
	, ,	km	\$67,144	17.000	\$1,141,442	8.000	\$537,149
_iect	rification Items Traction Power Supply	km	\$432,365	17.000	\$7,350,198	8.000	\$3,458,91
2	Traction Power Supply Traction Power Distribution	km	\$432,365	17.000	\$1,350,198	8.000	\$3,458,91
	ram Implementation Costs (PER SCREENING)	KIII	φουυ,233	17.000	φ13,703, 7 37	6.000	φυ,447,80
· og	Program Implementation Costs (PER SCREENING)	25.5% of Total	Cost & Procurement		\$73,914,443		\$44,300,24
:ont	Ingencies (PER SCREENING)	20.070 UF TUIAI	SOST & FIOCUIEITEIN		ψ13,714,443		ψ44,300,241
- Orit	Contingencies	25% of Total	Construction Cost		\$72,465,140		\$43,431,608
		2070 UI IUlai					
otal					\$266,463,835		\$155.749 18
	Construction Construction and Right of Way (Includes Environmental Mit	igation)			\$266,463,835 \$289,860,559		\$155,749,18° \$173,726,43°

 $W: \verb|CAHSRA| Cv-Study_06\\ \verb|ENGR| Cost Estimates\\ \verb|CV Algnments| BNSF N-S Align - Latest.xls$

	COST ELEMENTS	UNIT	UNIT PRICE	<u> </u>	QUANT	TITIES	
				UPRR Connectio	ction	Caslte Connect	Wye
_	ment Cost			BNSF I		BNSF N	
Track	Double Track Section-Total	km		Quantities 17.66	Item Cost	Quantities 13.44	Item Cost
1	Double Track Section - At Grade	km	\$993,167	17.66	\$17,536,347	13.44	\$13,351,142
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Earth	nwork and Related Items	hootoro	¢12.001	0.00		0.00	0.9
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
3	Cut Fill	m3	\$9 \$9	234,744	\$2,089,603	356,440 _ 0	\$3,172,895
4		m3		_	\$0	_	\$0
5	Borrow Spoil	m3 m3	\$13.35 \$0.00	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0 \$0	0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	km	\$101,733	17.65	\$1,795,585	13.44	\$1,367,595
8	Special Drainage Facilities		f Earthwork	17.03	\$1,795,565	13.44	\$227,024
	tures/Tunnels/Walls	576 0	LGI UIWOIK		ψ174,ZJ7		Ψ221,U24
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.10	\$2,887,673
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.15	\$3,467,884	0.15	\$3,467,884
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	e Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	1.00	\$17,167,417	1.00	\$17,167,417
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	9.00	\$9,842,652	6.00	\$6,561,768
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8 Doil (Minor crossing closure and Utility Relocation	EA	\$178,032	0.00	\$0	0.00	\$0
Rall a		lone	61 071 //1	0.00	¢0	0.00	60
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km km	\$1,2/1,661 \$1,271,661	0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Single Track Renoval	km	\$63,372	0.00	\$0 \$0	0.00	\$0 \$0
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	0.71	\$193,135	1.08	\$295,280
8	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km	\$13,988	16.95	\$237,101	12.36	\$172,895
	t-of-Way	KIII	\$15,700	10.75	Ψ257,101	12.50	\$172,075
1	Right-of-Way Required for Each Segment						
•	Urban	hectare	\$2,737,608	0.00	\$0	0.00	\$0
	Suburban	hectare	\$479,081	1.07	\$514,533	1.63	\$780,903
	Undeveloped	hectare	\$342,201	25.77	\$8,818,519	18.79	\$6,429,956
Envir	onmental Mitigation						,,0
	Environmental Mitigation	3% c	f Line Cost		\$3,085,821		\$2,609,850
Syste	em Elements						
1	Signaling (ATC)	km	\$845,654	17.657	\$14,931,717	13.443	\$11,368,130
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	17.657	\$12,349,540	13.443	\$9,402,213
3	Wayside Protection System	km	\$67,144	17.657	\$1,185,556	13.443	\$902,612
Elect	rification Items						
1	Traction Power Supply	km	\$432,365	17.657	\$7,634,261	13.443	\$5,812,277
2	Traction Power Distribution	km	\$806,233	17.657	\$14,235,652	13.443	\$10,838,187
Prog	ram Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$29,396,293		\$24,688,003
Conti	ingencies (PER SCREENING)						
	Contingencies	25% of Tota	Construction Cost		\$28,819,896		\$24,203,925
	Construction				\$102,860,709		\$86,994,992
Total	Construction and Right of Way (Includes Environmental Mitig	gation)			\$115,279,582		\$96,815,700
	d Total				\$173,495,771		\$145,707,628

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
Alignment	t Cost			Henry Mill BNSF N		Stockton to Ma UPRR X-2 BNSF-U	, MC-3)
Track				Quantities	Item Cost	Quantities	Item Cost
	uble Track Section-Total	km		10.90		17.05	
1	Double Track Section - At Grade	km	\$993,167	10.90	\$10,825,519	16.40	\$16,287,936
3	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km	\$1,878,243 \$1,878,243	0.00 0.00	\$0 \$0	0.65 0.00	\$1,220,858
4	Double Track Section - In Tunnel of Subway Double Track Section - In Trench	km km	\$1,878,243	0.00	\$0 \$0	0.00	\$0 \$0
	gle Track Section - Total	km	\$1,070,243	0.00	Ψ0	0.00	\$ 0
	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
	k and Related Items	la a stana	¢12.001	0.00	* 0	0.00	**
	e Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2 Cut 3 Fill		m3 m3	\$9 \$9	145,634 _ 0	\$1,296,379 \$0	179,224 236,075	\$1,595,385 \$2,101,451
	TOW	m3	\$13.35	0.00	\$0	0.00	\$2,101,451
5 Spc		m3	\$0.00	0.00	\$0 \$0	0.00	\$0 \$0
	t/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0 \$0
	ncing (Both Sides of R/W)	km	\$101,733	10.90	\$1,108,888	13.85	\$1,409,000
	ecial Drainage Facilities		Earthwork	.5.70	\$120,263	.5.05	\$255,292
	s/Tunnels/Walls	270 01			+ 0/2.00		1200/272
	indard Structure	km	\$13,733,933	0.00	\$0	0.70	\$9,613,753
	h Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3 Lon	ng Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
	iterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.10	\$2,887,673
5 Wa	terway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.15	\$3,467,884	0.30	\$6,935,768
	in Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
	in Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
	in Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
	uble Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
	uble Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
	smic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
	ossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
	t & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
	ench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
	ench Long chanical & Electrical for Tunnels	km	\$39,272,836	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	taining Walls	km km	\$1,931,362 \$4,399,945	0.00	\$0 \$0	2.95	\$12,979,839
	ntainment Walls	km	\$1,500,559	0.00	\$0	0.00	\$12,777,037
	gle Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0 \$0
Grade Sep		KIII	\$30,011,210	0.00	\$ 0	0.00	\$ 0
	et Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
	et Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
	et Overcrossing HSR - Undeveloped	EA	\$1,093,628	3.00	\$3,280,884	6.00	\$6,561,768
4 Sre	et Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5 Sre	et Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6 Sre	eet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7 Stre	eet Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
	nor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	Jtility Relocation						
	gle Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
	gle Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
	gle Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
	jor Utility Relocation - Urban jor Utility Relocation - Suburban	km	\$680,338	0.00	\$0	3.41	\$2,319,954
	jor Utility Relocation - Suburban jor Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	0.00 10.90	\$0 \$152,472	0.00 13.64	\$0 \$190,800
Right-of-V		KIII	\$13,700	10.90	φ1JZ,41Z	13.04	φ190,000
	ht-of-Way Required for Each Segment						
	Interievaly Required for Each Segment	hectare	\$2,737,608	0.00	\$0	5.18	\$14,189,023
	Guburban	hectare	\$479,081	0.00	\$0 \$0	0.00	\$14,107,023
	Indeveloped	hectare	\$342,201	16.57	\$5,670,270	20.73	\$7,094,852
	ental Mitigation						
E	nvironmental Mitigation	3% o	f Line Cost		\$1,539,783		\$3,388,973
System El							
	ignaling (ATC)	km	\$845,654	10.900	\$9,217,631	17.050	\$14,418,405
2 C	Communications (w/Fiber Optic Backbone)	km	\$699,413	10.900	\$7,623,605	17.050	\$11,924,996
	Vayside Protection System	km	\$67,144	10.900	\$731,866	17.050	\$1,144,800
3 W	ation Items						47.00
3 W		km	\$432,365	10.900	\$4,712,774	17.050	\$7,371,816
3 W Electrifica	raction Power Supply		\$806,233	10.900	\$8,787,937	17.050	\$13,746,269
3 W Electrifica 1 T 2 T	raction Power Distribution	km	\$000,233				
3 W Electrifica 1 T 2 T Program I	raction Power Distribution Implementation Costs (PER SCREENING)					Т	¢2E 007 C * *
3 W Electrifica 1 T 2 T Program I	raction Power Distribution Implementation Costs (PER SCREENING) Program Implementation Costs		Cost & Procurement		\$14,926,720		\$35,097,846
3 W Electrifica 1 Ti 2 Ti Program I Program I Contingen	raction Power Distribution Implementation Costs (PER SCREENING) Program Implementation Costs Incies (PER SCREENING)	25.5% of Total	Cost & Procurement		\$14,926,720		\$35,097,846
3 W Electrifica 1 T 2 T Program I Program Contingen	raction Power Distribution Implementation Costs (PER SCREENING) Implementation Costs Original Im	25.5% of Total			\$14,926,720 \$14,634,039		\$34,409,653
3 W Electrifica 1 Ti 2 Ti Program I Program Contingen Contal Cons	raction Power Distribution Implementation Costs (PER SCREENING) Implementation Costs Original Im	25.5% of Total	Cost & Procurement		\$14,926,720		

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
						From BNSF soutl	neast to Casle
				Manteca t		AFE	3
_	ment Cost			BNSF-U		BNSF Ca	
Tracl	Double Track Section-Total	km		Quantities 9.35	Item Cost	Quantities 17.60	Item Cost
1	Double Track Section - At Grade	km	\$993,167	8.85	\$8,789,527	17.60	\$17,479,737
2	Double Track Section - On Structure	km	\$1,878,243	0.50	\$939,121	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench Single Track Section - Total	km km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km	\$496.583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strutture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10 Farth	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	93,100	\$828,741	234,080	\$2,083,692
3	Fill	m3	\$9	118,050	\$1,050,837	0	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5 6	Spoil Cut/Fill Slopes (Landscaping/Erosion Control)	m3 hectare	\$0.00 \$8,075	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	km	\$101,733	7.00	\$712,130	8.00	\$813,863
8	Special Drainage Facilities		Earthwork		\$129,585		\$144,878
	tures/Tunnels/Walls						
2	Standard Structure	km	\$13,733,933	0.50	\$6,866,967	0.00	\$0
3	High Structure Long Span Structure	km km	\$16,480,720 \$37,577,568	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0 \$0	0.00	\$0 \$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.15	\$3,467,884
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
9	Twin Single Track TBM w/3rd Tube (>6 Miles) Double Track Drill & Blast	km km	\$78,846,643 \$83,740,573	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0 \$0	0.00	\$0 \$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15 16	Trench Long Mechanical & Electrical for Tunnels	km km	\$39,272,836 \$1,931,362	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
17	Retaining Walls	km	\$4,399,945	1.70	\$7,479,907	0.00	\$0
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	e Separations	- FA	¢17.1/7.417	0.00	* 0	0.00	***
2	Sreet Overcrossing HSR - Urban Sreet Overcrossing HSR - Suburban	EA EA	\$17,167,417 \$6,485,469	0.00 3.00	\$0 \$19,456,406	0.00 1.00	\$0 \$6,485,469
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	1.00	\$1,093,628	9.00	\$9,842,652
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench Minor crossing closure	EA EA	\$0 \$178,032	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	and Utility Relocation	EA	\$170,032	0.00	\$0	0.00	\$0
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	1.40	\$954,175	0.88	\$598,698
7 8	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	3.18 4.77	\$869,161 \$66,703	0.00 <u> </u>	\$0 \$233,884
	t-of-Way	NIII	ψ13,700	7.77	ψου, 103	10.72	₩ZJJ,004
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	2.13	\$5,836,581	1.34	\$3,662,920
	Suburban	hectare	\$479,081	4.83	\$2,314,921	0.00	\$0
Envi	Undeveloped commental Mitigation	hectare	\$342,201	7.25	\$2,480,273	25.41	\$8,696,695
CHVII	Environmental Mitigation	3% 0	f Line Cost		\$2,276,758		\$2,739,750
Syste	em Elements	3,00			.=,=. 0,7.00		,_,, 3,,, 30
1	Signaling (ATC)	km	\$845,654	9.350	\$7,906,867	17.600	\$14,883,515
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	9.350	\$6,539,514	17.600	\$12,309,674
3 Floor	Wayside Protection System	km	\$67,144	9.350	\$627,793	17.600	\$1,181,729
1	rification Items Traction Power Supply	km	\$432,365	9.350	\$4,042,609	17.600	\$7,609,616
2	Traction Power Distribution	km	\$806,233	9.350	\$7,538,276	17.600	\$14,189,697
	ram Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$22,644,122		\$27,138,209
	ingencies (PER SCREENING)						
Cont		0E0/ CT : :	Construction		¢00 000 40-		¢0//0/0==
	Contingencies	25% of Total	Construction Cost		\$22,200,120 \$75,891,947		
Tota			Construction Cost		\$22,200,120 \$75,891,947 \$88,800,480		\$26,606,087 \$91,324,985 \$106,424,350

			Castle AFB So	uth to BNSF	BNSF South of C	astle to UPRR
1			Conn		Conn	
ignment Cost			BNSF Ca		BNSF Ca	
Pouble Treek Costion Total	Irms		Quantities	Item Cost	Quantities	Item Cost
Double Track Section-Total Double Track Section - At Grade	km km	\$993,167	10.52 0.00	\$0	8.02 0.00	\$0
2 Double Track Section - At Grade 2 Double Track Section - On Structure	km	\$1,878,243	6.68	\$12,550,417	4.94	\$9,271,005
3 Double Track Section - In Tunnel or Subway	km	\$1,878,243	2.63	\$4,932,265	2.41	\$4,532,199
4 Double Track Section - In Trench	km	\$1,878,243	1.21	\$2,280,186	0.67	\$1,264,057
Single Track Section - Total	km		0.00		0.00	
Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6 Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7 Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
Single Track Section - In Trench Freight Double Track - At Grade	km km	\$939,121 \$993,167	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
0 Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0 \$0
arthwork and Related Items	KIII	ψ 4 70,303	0.00	Ψ0	0.00	Ψ0
1 Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2 Cut	m3	\$9	64,504	\$574,190	508,725	\$4,528,478
3 Fill	m3	\$9	48,877	\$435,085	0	\$0
4 Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5 Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6 Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7 Fencing (Both Sides of R/W)	km	\$101,733 f Earthwork	0.00	\$0 \$50.464	0.00	\$0
8 Special Drainage Facilities ructures/Tunnels/Walls	5% 01	Edi liiw0fK		\$50,464		\$226,424
1 Standard Structure	km	\$13,733,933	0.65	\$8,927.057	0.00	\$0
2 High Structure	km	\$16,480,720	0.00	\$6,927,037	0.00	\$0
3 Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5 Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.05	\$1,155,961	0.05	\$1,155,961
6 Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7 Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8 Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9 Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
Double Track Mined (Soft Soil) Selemia Chamber (Drill & Bleet (Mined))	km	\$96,247,282	0.00	\$0	0.00	\$0
1 Seismic Chamber (Drill & Blast/Mined) 2 Crossovers	ea ea	\$94,803,899 \$94,803,899	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
3 Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
4 Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
5 Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
6 Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
7 Retaining Walls	km	\$4,399,945	2.42	\$10,647,868	1.34	\$5,895,927
8 Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
9 Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
rade Separations		447.447.447	1.00	A(0.440.447	4.00	*******
1 Sreet Overcrossing HSR - Urban	EA	\$17,167,417	4.00	\$68,669,667	1.00	\$17,167,417
2 Sreet Overcrossing HSR - Suburban 3 Sreet Overcrossing HSR - Undeveloped	EA EA	\$6,485,469 \$1,093,628	0.00 2.00	\$0 \$2,187,256	11.00 8.00	\$71,340,154 \$8,749,024
Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$2,167,250	0.00	\$6,749,024
5 Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0 \$0	0.00	\$0
6 Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7 Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8 Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
ail and Utility Relocation						
1 Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2 Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3 Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
Major Utility Relocation - Urban	km	\$680,338	1.58	\$1,073,574	1.76	\$1,200,389
7 Major Utility Relocation - Suburban 8 Major Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	2.10 6.84	\$575,248 \$95,652	1.92 4.33	\$526,254 \$60,580
ght-of-Way	KIII	\$13,700	0.04	φ 7 0,002	4.33	φου, 3οU
1 Right-of-Way Required for Each Segment						
Urban	hectare	\$2,737,608	2.40	\$6,567,522	2.68	\$7,342,265
Suburban	hectare	\$479,081	3.20	\$1,532,102	2.93	\$1,401,792
Undeveloped	hectare	\$342,201	10.39	\$3,556,837	6.58	\$2,252,709
nvironmental Mitigation						
Environmental Mitigation	3% 0	f Line Cost	T	\$4,324,533		\$4,463,612
rstem Elements		****	4e T	#0.0C= C= '		61 700 0
1 Signaling (ATC)	km	\$845,654	10.522	\$8,897,974	8.022	\$6,783,838
2 Communications (w/Fiber Optic Backbone) 3 Wayside Protection System	km	\$699,413 \$67,144	10.522	\$7,359,227	8.022 8.022	\$5,610,693
ectrification Items	km	\$07,144	10.522	\$706,486	8.022	\$538,627
1 Traction Power Supply	km	\$432,365	10.522	\$4,549,340	8.022	\$3,468,429
	km	\$806,233	10.522	\$8,483,181	8.022	\$6,467,599
? Traction Power Distribution	AIII	\$555,255	.5.522	\$5,.55,151	3.022	\$5,.07,077
Traction Power Distribution Togram Implementation Costs (PER SCREENING)						£41.002.007
	25.5% of Total	Cost & Procurement	1	\$40,833,683		\$41,883,096
ogram Implementation Costs (PER SCREENING)	25.5% of Total	Cost & Procurement		\$40,833,683		\$41,883,096
ogram Implementation Costs (PER SCREENING) Program Implementation Costs ontingencies (PER SCREENING) Contingencies		Cost & Procurement Construction Cost		\$40,033,023		\$41,061,859
ogram Implementation Costs (PER SCREENING) Program Implementation Costs ontingencies (PER SCREENING)	25% of Total					\$41,883,098 \$41,061,859 \$148,787,057 \$164,247,435

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
Align	ment Cost			Castle Air Force Avenue 1 (B BN-BN (NSF N/S-7)	Atwater to Be BNSF Cas	
racl				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		10.69		8.02	
1	Double Track Section - At Grade	km	\$993,167	8.49	\$8,428,014	0.00	\$0
2	Double Track Section - On Structure	km	\$1,878,243	2.20	\$4,132,134	4.94	\$9,271,005
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	2.41	\$4,532,199
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.67	\$1,264,057
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583		\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
artr	work and Related Items	bestere	¢12.001	0.00	0.0	0.00	* 0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	89,108	\$793,206	75,144 _ 0	\$668,904
3	Fill	m3	\$9	107,730	\$958,972	_	\$0
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil Cut/Fill Slangs (Landssaning/Erasian Control)	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	0.00	\$0	0.00	\$0
_	Special Drainage Facilities stures/Tunnels/Walls	5% 0	f Earthwork		\$87,609		\$33,445
truc	Standard Structure	km	\$13,733,933	1.10	\$15,107,327	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure Waterway Crossing - Primary	km	\$37,577,568 \$28,876,734	0.00	\$0 \$2,887,673	0.00	\$0 \$0
4	, ,	km		0.10		0.00	\$0 \$11 EEO 412
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing) Twin Single Track Drill & Blast (<6 Miles)	km	\$23,119,226	0.00 0.00	\$0 \$0	0.50 0.00	\$11,559,613 \$0
	` '	km	\$75,040,254	-		-	
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	1.34	\$5,895,927
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
_	e Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	8.00	\$137,339,335	3.00	\$51,502,250
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	3.00	\$3,280,884	2.00	\$2,187,256
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0 \$1,037,700
5	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0	1.52	\$1,036,700
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	0.00	\$0
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.00	\$0	6.50	\$90,871
_	Pight of Way Dogwind for Each Sagment						
1	Right-of-Way Required for Each Segment	h a -+	60 707 /00	0.00	**	0.00	¢/ 240 201
	Urban	hectare	\$2,737,608 \$479,081	0.00	\$0	2.32	\$6,340,301
	Suburban Undeveloped	hectare		0.00	\$0 \$0	0.00	\$0
21/1-	onmental Mitigation	hectare	\$342,201	0.00	\$0	9.87	\$3,378,892
IVII	Environmental Mitigation	20/ ~	f Line Cost		\$6,104,367		\$3,327,34
ve+	em Elements	370 0	EIIIC COSt		Ψυ, 104,307		ψ3,321,34
y o tt	Signaling (ATC)	km	\$845,654	10.686	\$9,036,661	8.022	\$6,783,83
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	10.686	\$7,473,930	8.022	\$5,610,69
3	Wayside Protection System	km	\$67,144	10.686	\$7,473,930	8.022	\$5,610,69
	rification Items	KIII	φυ/,144	10.000	\$111,471	0.022	φυοο,02
	Traction Power Supply	lem	\$432,365	10.686	\$4,620,248	8.022	\$3,468,42
2	Traction Power Supply Traction Power Distribution	km	\$432,365		\$4,620,248		\$3,468,42
	ram Implementation Costs (PER SCREENING)	km	⊅0U0,∠33	10.686	φο,υ15,403	8.022	Φ 0,407,5
ıug		2E E0/ of Total	Coct & Drootmana-t	<u> </u>	¢E2 442 724		\$21 (00.2
024	Program Implementation Costs	25.5% OF 10tal	Cost & Procurement		\$53,443,731		\$31,609,27
unt	Ingencies (PER SCREENING)	2E07 - 6 T - 1	Construction Ct		¢E2 205 045		¢20,000 **
	Contingencies	25% OF FOTAL	Construction Cost		\$52,395,815		\$30,989,48
.+ ~ !	Construction						
	Construction Construction and Right of Way (Includes Environmental Mi	timatiam\			\$203,478,893 \$209,583,260		\$110,911,4° \$123,957,94

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	TITIES	
				F		1 -41 41	
Δlian	ment Cost			French Camp UPRR I		Lathrop throu UPRR N	
Track				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		8.00		8.70	
1	Double Track Section - At Grade	km	\$993,167	7.45	\$7,399,093	8.50	\$8,441,918
3	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km km	\$1,878,243 \$1,878,243	0.55 0.00	\$1,033,033 \$0	0.20 0.00	\$375,649 \$0
4	Double Track Section - In Trumer of Subway Double Track Section - In Trench	km	\$1,878,243	0.00	\$0 \$0	0.00	\$0 \$0
4	Single Track Section - Total	km	\$1,070,243	0.00	Ψ0	0.00	40
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
9	Single Track Section - In Trench	km	\$939,121 \$993,167	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
10	Freight Double Track - At Grade Freight Single Track - At Grade	km km	\$496,583	0.00	\$0 \$0	0.00	\$0 \$0
_	work and Related Items	KIII	\$470,303	0.00	40	0.00	40
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	93,100	\$828,741	116,120	\$1,033,657
3	FIII	m3	\$9	29,925	\$266,381	60,010	\$534,186
4 5	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0 \$0
6	Spoil Cut/Fill Slopes (Landscaping/Erosion Control)	m3 hectare	\$0.00 \$8,075	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
7	Fencing (Both Sides of R/W)	km	\$101,733	7.10	\$722,303	7.95	\$808,776
8	Special Drainage Facilities		Earthwork	71.0	\$90,871	7.70	\$118,831
	tures/Tunnels/Walls						
1	Standard Structure	km	\$13,733,933	0.55	\$7,553,663	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.90	\$14,832,648
3	Long Span Structure	km	\$37,577,568	0.00	\$0 \$0	0.00	\$0
- 4 - 5	Waterway Crossing - Primary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km km	\$28,876,734 \$23,119,226	0.00 0.10	\$0 \$2,311,923	0.00 0.00	\$0 \$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$2,311,923	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11 12	Seismic Chamber (Drill & Blast/Mined) Crossovers	ea	\$94,803,899	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
13	Cut & Cover Double Track Tunnel	ea km	\$94,803,899 \$48,123,641	0.00	\$0 \$0	0.00	\$0 \$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	3.50	\$15,399,809	0.55	\$2,419,970
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19 Crad	Single Track Cut and Cover Subway e Separations	km	\$30,077,276	0.00	\$0	0.00	\$0
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	2.00	\$34,334,834
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	3.00	\$19,456,406
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	2.00	\$2,187,256	3.00	\$3,280,884
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6 7	Sreet Undercrossing HSR - Undeveloped Street Bridging HSR Trench	EA EA	\$1,157,211	0.00	\$0 \$0	0.00 0.00	\$0 \$0
8	Minor crossing closure	EA	\$0 \$178,032	0.00	\$0	0.00	\$0
	ing Items	E/(\$170,032	0.00	40	0.00	40
1	Intermediate Stations	LS		0.00	\$0	0.00	\$0
2	Terminal Stations	LS		0.00	\$0	0.00	\$0
3	Parking requirements	space		0.00	\$0	0.00	\$0
Rail a	and Utility Relocation	Long	¢1 071 //1	0.00	¢0	0.00	40
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km km	\$1,271,661 \$1,271,661	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
3	Single Track Relocation (permanent) Single Track Removal	km	\$1,271,661	0.00	\$0 \$0	0.00	\$0 \$0
5	Major Utility Relocation - Urban	km	\$680,338	1.28	\$870,833	0.87	\$591,894
7	Major Utility Relocation - Suburban	km	\$273,407	0.40	\$109,363	2.73	\$746,401
8	Major Utility Relocation - Undeveloped	km	\$13,988	6.32	\$88,406	5.13	\$71,760
Righ	i-of-Way					-	
1	Right-of-Way Required for Each Segment	bastons	¢2 727 /00	1.05	¢E 220 22/	1.22	¢2 (12 (42
	Urban Suburban	hectare hectare	\$2,737,608 \$479,081	1.95 0.61	\$5,338,336 \$292,240	1.32 4.14	\$3,613,643 \$1,983,397
	Undeveloped	hectare	\$342,201	9.61	\$3,288,551	7.80	\$2,669,167
Envir	onmental Mitigation	seture	\$3.2,201	7.01	+=/200/001		
	Environmental Mitigation	3% o	f Line Cost		\$1,850,044		\$3,355,49
Syste	em Elements						47
1	Signaling (ATC)	km	\$845,654	8.00	\$6,765,234	8.70	\$7,357,192
3	Communications (w/Fiber Optic Backbone) Wayside Protection System	km km	\$699,413 \$67,144	8.00 8.00	\$5,595,306 \$537,149	8.70 8.70	\$6,084,896 \$584,150
	rification Items	KIII	μ φυ/,144	0.00	φυυ <i>1</i> ,149	0.70	φυ 04,1 30
-1001	Traction Power Supply	km	\$432,365	8.00	\$3,458,917	8.70	\$3,761,57
1	Traction Power Distribution	km	\$806,233	8.00	\$6,449,862	8.70	\$7,014,22
2							
2	ram Implementation Costs (PER SCREENING)				*		\$31,485,24
2 Prog	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$18,471,515		\$31,403,24
2 Prog	Program Implementation Costs Ingencies (PER SCREENING)						
2 Prog Cont	Program Implementation Costs ingencies (PER SCREENING) Contingencies		Cost & Procurement Construction Cost		\$18,109,329		\$30,867,88
2 Prog Cont	Program Implementation Costs Ingencies (PER SCREENING)	25% of Total					\$30,867,88 \$111,849,84 \$123,471,55

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	ITITIES	
					. 51105 (1155		
lignme	ent Cost				to BNSF/UPRR N/S-3	BNSF/UPRR Soil	
rack				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km	4000 417	3.30	** ***	18.50	*40.070.50
2	Double Track Section - At Grade Double Track Section - On Structure	km km	\$993,167 \$1,878,243	3.30 0.00	\$3,277,451 \$0	18.50 0.00	\$18,373,58° \$1
3	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0 \$0	0.00	\$1
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$1
	Single Track Section - Total	km	Ψ1,070,243	0.00	40	0.00	<u> </u>
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$
	ork and Related Items						
	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	
	Cut	m3	\$9	72,480	\$645,190	314,600	\$2,800,45
	Fill Borrow	m3	\$9 \$13.35	0 0	\$0 \$0	19,950	\$177,58
_	Spoil	m3 m3	\$13.35	0.00 0.00	\$0 \$0	0.00 0.00	<u> </u>
	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0 \$0	0.00	
	Fencing (Both Sides of R/W)	km	\$101,733	3.30	\$335,718	18.50	\$1.882.05
	Special Drainage Facilities		Earthwork	5.50	\$49,045	10.50	\$243,00
	res/Tunnels/Walls	370 01			\$ T 7,0 T 3		ΨZ-10,00
	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	
	High Structure	km	\$16,480,720	0.00	\$0	0.00	
	ong Span Structure	km	\$37,577,568	0.00	\$0	0.00	
١ ١	Naterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.10	\$2,887,6
i ۱	Naterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	
5 7	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	
	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	
	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	
	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	
	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	
_	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	
	French Short	km	\$49,668,587	0.00	\$0	0.00	
	French Long	km	\$39,272,836	0.00	\$0	0.00	
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	
	Retaining Walls Containment Walls	km	\$4,399,945	0.00	\$0 \$0	0.00 0.00	:
	Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.00 0.00	\$0 \$0	0.00	
	Separations	KIII	\$30,077,270	0.00	\$0	0.00	
	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	4.00	\$68,669,6
	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	1.00	\$6,485,4
	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	1.00	\$1,093,628	0.00	
1 5	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	
5 5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	
5 5	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	
7 5	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	
	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	
	g Items						
	ntermediate Stations	LS		0.00	\$0	0.00	
	Ferminal Stations	LS		0.00	\$0	0.00	
	Parking requirements	space		0.00	\$0	0.00	
	d Utility Relocation Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	
	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0 \$0	0.00	
	Single Track Relocation (permanent) Single Track Removal	km	\$1,271,001	0.00	\$0 \$0	0.00	
	Major Utility Relocation - Urban	km	\$680,338	0.00	\$0 \$0	4.81	\$3,272,4
	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	3.52	\$962,3
	Major Utility Relocation - Undeveloped	km	\$13,988	3.30	\$46,161	10.18	\$142,4
	f-Way						
F	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.00	\$0	7.31	\$20,011,9
	Suburban	hectare	\$479,081	0.00	\$0	5.34	\$2,558,2
	Undeveloped	hectare	\$342,201	5.02	\$1,717,849	15.47	\$5,293,8
viron	mental Mitigation				A	,	
nt	Environmental Mitigation	3% 0	f Line Cost		\$445,646		\$4,759
	Elements Signaling (ATC)	Long	¢04F / F-4	2.20	\$2.700 / 50	10 50	¢1E / / /
.	Signaling (ATC)	km	\$845,654	3.30	\$2,790,659		\$15,644
!	Communications (w/Fiber Optic Backbone)	km	\$699,413	3.30	\$2,308,064	18.50	\$12,939
ctrifi	Wayside Protection System ication Items	km	\$67,144	3.30	\$221,574	18.50	\$1,242
ctriii	Traction Power Supply	km	\$432,365	3.30	\$1,426,803	18.50	\$7,998
,	Traction Power Distribution	km	\$806,233	3.30	\$2,660,568		\$14,915
	n Implementation Costs (PER SCREENING)	MIII	, , , , , , , , , , , , , , , , , , , 	3.30	\$2,000,000	10.30	Ψ1-7,710
J. C.	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$4,339,681		\$48,771
nting	gencies (PER SCREENING)				, ., 23 , 1001		+ , , , , 1
T	Contingencies	25% of Total	Construction Cost		\$4,254,589		\$47,814
tal Co	onstruction				\$14,854,861		\$158,636
	onstruction and Right of Way (Includes Environmental Mi	tigation)			\$17,018,356		\$191,259
ai co							

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				UPRR Modesto	South-Western	South Modes	sto to BNSF
					tion	Conne	
ligr rac	nment Cost			Quantities	N/S-5b Item Cost	UPRR I Quantities	Item Cost
ac	Double Track Section-Total	km		4.20	i tem cost	20.90	rtem cos
1	Double Track Section - At Grade	km	\$993,167	4.20	\$4,171,301	16.15	\$16,039,64
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	4.75	\$8,921,65
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	5
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	5
	Single Track Section - Total	km		0.00		0.00	
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	
3	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	
9	Freight Double Track - At Grade Freight Single Track - At Grade	km	\$993,167	0.00	\$0 \$0	0.00	
_	hwork and Related Items	km	\$496,583	0.00	\$0	0.00	
LI	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	
	Cut	m3	\$12,081	54,480	\$484,960	218,642	\$1,946,2
-	Fill	m3	\$9	272,400	\$2,424,802	452,112	\$4,024,5
1	Borrow	m3	\$13.35	0.00	\$0	0.00	ψ./o2.//c
;	Spoil	m3	\$0.00	0.00	\$0	0.00	
- 5	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	
,	Fencing (Both Sides of R/W)	km	\$101,733	4.20	\$427,278	14.55	\$1,480,2
3	Special Drainage Facilities	5% o	f Earthwork		\$166,852		\$372,5
u	ctures/Tunnels/Walls	•					
	Standard Structure	km	\$13,733,933	0.00	\$0	3.20	\$43,948,5
!	High Structure	km	\$16,480,720	0.00	\$0	1.55	\$25,545,7
	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	
	Waterway Crossing - Primary	km	\$28,876,734	0.15	\$4,331,510	0.00	
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.05	\$1,155,9
ò	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	
3	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	
)	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	
0	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	
1	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	
2	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	
3	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	
4	Trench Short	km	\$49,668,587	0.00	\$0 \$0	0.00 0.00	
5 6	Trench Long	km	\$39,272,836	0.00 0.00	\$0 \$0	0.00	
7	Mechanical & Electrical for Tunnels Retaining Walls	km km	\$1,931,362 \$4,399,945	0.00	\$0 \$0	1.60	\$7,039,9
8	Containment Walls	km	\$1,500,559	0.00	\$0 \$0	0.00	\$1,039,5
9	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0 \$0	0.00	
	le Separations	KIII	\$50,011,210	0.00	40	0.00	
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	11.00	\$188,841,585	4.00	\$68,669,6
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	2.00	\$12,970,9
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	
1	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	
,	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	
ò	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	
3	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	
	ding Items		T				
	Intermediate Stations	LS		0.00	\$0	0.00	
<u>'</u>	Terminal Stations	LS		0.00	\$0	0.00	
::	Parking requirements	space		0.00	\$0	0.00	
111	and Utility Relocation Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0 \$0	0.00	
3	Single Track Renoval	km	\$63,372	0.00	\$0	0.00	
	Major Utility Relocation - Urban	km	\$680,338	3.28	\$2,231,510	5.23	\$3,558,
7	Major Utility Relocation - Suburban	km	\$273,407	0.42	\$114,831	1.46	\$399,
3	Major Utility Relocation - Undeveloped	km	\$13,988	0.50	\$6,994	14.21	\$198,
	it-of-Way	<u> </u>					
Ī	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	5.00	\$13,688,041	7.94	\$21,736,6
	Suburban	hectare	\$479,081	0.64	\$306,612	2.22	\$1,063,
	Undeveloped	hectare	\$342,201	0.77	\$263,495	21.60	\$7,391,5
vi	ronmental Mitigation					·	
	Environmental Mitigation	3% (of Line Cost		\$6,455,251		\$7,675
	em Elements						A
	Signaling (ATC)	km	\$845,654	4.20		20.90	\$17,674
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	4.20		20.90	\$14,617
3	Wayside Protection System	km	\$67,144	4.20	\$282,003	20.90	\$1,403
	trification Items		A 100 01=		#4.04F.05	22.5-1	40.0-
<u> </u>	Traction Power Supply	km	\$432,365	4.20		20.90	\$9,036
2	Traction Power Distribution	km	\$806,233	4.20	\$3,386,178	20.90	\$16,850
υg	gram Implementation Costs (PER SCREENING)	DE EO/ -FT-+-	Coet & Droousesses		¢40.1E1.E47	T	674.004
r	Program Implementation Costs tingencies (PER SCREENING)	20.5% UI 10ta	Cost & Procurement		\$60,151,547		\$74,898
111	Contingencies	250/ of Tota	I Construction Cost		\$58,972,104		\$73,430
		20% UI 10ta	i construction COSt		\$58,972,104		\$73,430
	Il Construction Il Construction and Right of Way (Includes Environmental N	Mitigation)			\$235,888,418		\$293,72

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				BNSF Connec		Merced Sou	
liar	nment Cost			Mer UPRR		Conne UPRR I	
rac				Quantities	Item Cost	Quantities	Item Cos
	Double Track Section-Total	km		33.25		4.75	
1	Double Track Section - At Grade	km	\$993,167	29.55	\$29,348,081	4.75	\$4,717,5
2	Double Track Section - On Structure	km	\$1,878,243	3.70	\$6,949,497	0.00	
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	
1	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	
;	Single Track Section - Total Single Track Section - At Grade	km km	\$496,583	0.00 0.00	\$0	0.00	
)	Single Track Section - At Grade Single Track Section - On Strouture	km	\$939,121	0.00	\$0	0.00	
,	Single Track Section - On Streature Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	
;	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	
,	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	
0	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	
rtl	hwork and Related Items			,			
	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	
!	Cut	m3	\$9	392,974	\$3,498,107	96,474	\$858,7
	Fill	m3	\$9	81,462	\$725,144	0	
	Borrow	m3	\$13.35	0.00	\$0	0.00	
	Spoil	m3	\$0.00	0.00	\$0	0.00	
	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	
	Fencing (Both Sides of R/W)	km	\$101,733	28.30	\$2,879,039	4.75	\$483,2
	Special Drainage Facilities	5% 0	Earthwork		\$355,115		\$67,
u	Standard Structure	km	\$13,733,933	4.05	\$55,622,430	0.00	
	High Structure	km	\$13,733,933	4.05 2.65	\$43,673,908	0.00	
	Long Span Structure	km	\$37,577,568	0.00	\$43,673,908	0.00	
	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$2,887,673	0.00	
	Waterway Crossing - Trimary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.30	\$6,935,768	0.00	
	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	
	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	
	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	
	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	
)	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	
	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	
!	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	
3	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	
ļ	Trench Short	km	\$49,668,587	0.00	\$0	0.00	
5	Trench Long	km	\$39,272,836	0.00	\$0	0.00	
6	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	
7	Retaining Walls	km	\$4,399,945	1.25	\$5,499,932	0.00	
8	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	
9	Single Track Cut and Cover Subway le Separations	km	\$30,077,276	0.00	\$0	0.00	
au	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	3.00	\$51,502,250	4.00	\$68,669,6
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	1.00	\$6,485,469	0.00	Ψ00,007,0
	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	6.00	\$6,561,768	2.00	\$2,187,
	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	. , . ,
	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	
,	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	
	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	
	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	
	ling Items						
	Intermediate Stations	LS		0.00	\$0	0.00	
	Terminal Stations	LS		0.00	\$0	0.00	
	Parking requirements	space		0.00	\$0	0.00	
ıı	and Utility Relocation Single Track Polecation (temporary)	Irms	¢1 071 //1	0.00	\$0	0.00	
	Single Track Relocation (temporary) Single Track Relocation (permanent)	km km	\$1,271,661 \$1,271,661	0.00	\$0 \$0	0.00 _	
	Single Track Relocation (permanent) Single Track Removal	km	\$63,372	0.00	\$0 \$0	0.00	
	Major Utility Relocation - Urban	km	\$680,338	4.66	\$3,170,377	1.05	\$714,
	Major Utility Relocation - Orban Major Utility Relocation - Suburban	km	\$273,407	2.00	\$546,814	2.52	\$688,
	Major Utility Relocation - Undeveloped	km	\$13,988	26.60	\$372,088	1.19	\$16,
	t-of-Way						
Ξ	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	7.08	\$19,382,266	1.59	\$4,352,
	Suburban	hectare	\$479,081	3.03	\$1,451,616	3.83	\$1,834,
	Undeveloped	hectare	\$342,201	40.43	\$13,835,185	1.81	\$619,
/i	ronmental Mitigation		f.i. 0 i	Т	40	1	
	Environmental Mitigation	3% 0	f Line Cost		\$9,654,085		\$2,75
t	em Elements Signaling (ATC)	Irma	¢04F / F#	22.05	¢20 110 003	4 75	¢4.01
	Signaling (ATC)	km	\$845,654	33.25	\$28,118,003	4.75	\$4,01
	Communications (w/Fiber Optic Backbone)	km	\$699,413	33.25	\$23,255,491	4.75	\$3,322
c	Wayside Protection System	km	\$67,144	33.25	\$2,232,527	4.75	\$31
	trification Items	Irms	¢422.27F	22.05	¢14 27/ 120	4 7-	¢2.051
	Traction Power Supply Traction Power Distribution	km	\$432,365 \$806,233	33.25 33.25	\$14,376,122 \$26,807,239	4.75 4.75	\$2,05 \$3,82
nn	ram Implementation Costs (PER SCREENING)	km	\$6U0,233	33.25	\$ZU,8U1,Z39	4./5	\$3,82
J	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$93,362,129		\$25,88
n†	ingencies (PER SCREENING)	[20.070 UI TUIdI	SOST OF TOCUTORIES		₩73,3UZ,1Z9		Ψ23,00
	Contingencies	25% of Total	Construction Cost	T	\$91,531,499		\$25,37
-	I Construction	2070 01 10181	22.101. 401.011 0031		\$321,802,843		\$91,94
а							
	Construction and Right of Way (Includes Environmental N	Aitigation)			\$366,125,996		\$101,51

	COST ELEMENTS	UNIT	UNIT PRICE		QUANT	ITIES	
				BNSF Connec Henry Mi	ller Wye	BNSF Henry Miller Wye UPRR N/S-10	
Aligr Trac	nment Cost			UPRR Quantities	Item Cost	Quantities	/S-10 Item Cost
Hac	Double Track Section-Total	km		17.45	Tterri cost	15.90	item cost
1	Double Track Section - At Grade	km	\$993,167	17.45	\$17,330,762	15.25	\$15,145,795
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.65	\$1,220,858
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
*	Single Track Section - Total	km	\$1,070,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - At Grade Single Track Section - On Strouture		\$939,121	0.00	\$0	0.00	\$0
7		km					
	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
Eartl	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	279,084	\$2,484,301	203,490	\$1,811,391
3	Fill	m3	\$9	0	\$0	49,210	\$438,049
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	17.45	\$1,775,238	14.00	\$1,424,260
8	Special Drainage Facilities		f Earthwork	.7.40	\$212,977	. 7.00	\$183,685
	ctures/Tunnels/Walls	5 /6 U	. LUI II IWUI K		4616,711		ψ103,003
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.65	\$8,927,057
	High Structure		\$13,733,933 \$16,480,720				
2		km	,	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.15	\$4,331,510
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.30	\$6,935,768	0.10	\$2,311,923
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15							\$0
	Trench Long	km	\$39,272,836	0.00	\$0	0.00	
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	12.50	\$54,999,317
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
Grad	e Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	2.00	\$34,334,834
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	6.00	\$6,561,768	5.00	\$5,468,140
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	ling Items		\$170,00 <u>2</u>	0.00	***	0.00	+0
1	Intermediate Stations	LS		0.00	\$0	0.00	\$0
2	Terminal Stations	LS		0.00	\$0 \$0	0.00	\$0
						_	
3		space		0.00	\$0	0.00	\$0
kail :	and Utility Relocation		A				
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	0.87	\$591,894	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	1.43	\$390,972
8	Major Utility Relocation - Undeveloped	km	\$13,988	16.58	\$231,925	14.47	\$202,410
	t-of-Way						
1	Right-of-Way Required for Each Segment						
•	Urban	hectare	\$2,737,608	1.33	\$3,641,019	0.00	\$0
	Suburban	hectare	\$479,081	0.00	\$0	2.18	\$1,044,397
	Undeveloped	hectare	\$342,201	25.20	\$8,623,464	21.99	\$7,524,999
m. d		nectare	\$34Z,ZUT	25.20	φυ,υ∠3,404	21.99	φ1,024,999
.iivii	ronmental Mitigation Environmental Mitigation	201	of Line Coot	1	¢0 =77 407		¢E 20E 5
		3% 0	of Line Cost		\$2,576,137		\$5,295,54
	em Elements		40.4		04.75		A-20 : : =
1	Signaling (ATC)	km	\$845,654	17.45	\$14,756,666	15.90	\$13,445,90
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	17.45	\$12,204,762	15.90	\$11,120,67
3	Wayside Protection System	km	\$67,144	17.45	\$1,171,657	15.90	\$1,067,58
lect	rification Items						
1	Traction Power Supply	km	\$432,365	17.45	\$7,544,762	15.90	\$6,874,59
	Traction Power Distribution	km	\$806,233	17.45	\$14,068,762	15.90	\$12,819,10
2	ram Implementation Costs (PER SCREENING)		,				
2		25.5% of Total	Cost & Procurement		\$25,681,525		\$48,547,66
2		20.070 OF TOTAL	Soor a modurement		Ψ20,001,020		Ψ+0,0+1,0t
2 Prog	Program Implementation Costs						
2 Prog	ingencies (PER SCREENING)	2E0/ of Total	Construction Cost	1	¢25 177 0//	Т	\$ 17 ENE 7
2 rog	ingencies (PER SCREENING) Contingencies	25% of Total	I Construction Cost		\$25,177,966		
rog ont	ingencies (PER SCREENING) Contingencies Construction		I Construction Cost		\$85,871,242		\$47,595,74 \$176,518,05
2 Prog Cont Cota	ingencies (PER SCREENING) Contingencies		I Construction Cost				

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				BNSF N/S-2,	BNSF N/S-3)		tion
	ent Cost				NSF X-1		N/S-5a
rack	Double Track Section Total	km		Quantities 20.20	Item Cost	Quantities	Item Cost
1	Double Track Section-Total Double Track Section - At Grade	km km	\$993,167	17.00	\$16,883,837	4.20 4.20	\$4,171,30
2	Double Track Section - At Grade Double Track Section - On Structure	km	\$1,878,243	3.20	\$6,010,376	0.00	\$4,171,30
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$
	Single Track Section - Total	km	11/212/212	0.00	***	0.00	-
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$1
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$1
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$
	ork and Related Items		440.004	0.00	40	0.00	
	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$ \$
	Cut Fill	m3 m3	\$9 \$9	170,240 1,024,097	\$1,515,412 \$9,116,126	59,020 181,600	\$525,37 \$1,616,53
	Borrow	m3	\$13.35	0.00	\$9,110,120	0.00	\$1,010,03
_	Spoil	m3	\$0.00	0.00	\$0	0.00	\$
	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$
	Fencing (Both Sides of R/W)	km	\$101,733	13.80	\$1,403,913	4.20	\$427,27
	Special Drainage Facilities		f Earthwork	10.00	\$601,773	11.20	\$128,45
	res/Tunnels/Walls	373 0			4001,770		ψ.20,40
	Standard Structure	km	\$13,733,933	2.05	\$28,154,564	0.00	(
	High Structure	km	\$16,480,720	1.15	\$18,952,828	0.00	5
	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	
	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.20	\$5,775,34
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.15	\$3,467,884	0.00	
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	
	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	
	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	
	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	!
	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	!
	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	
	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	!
	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$
	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$
	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	
	Retaining Walls	km	\$4,399,945	3.20	\$14,079,825	0.00	
	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	
	Single Track Cut and Cover Subway Separations	km	\$30,077,276	0.00	\$0	0.00	\$
	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	11.00	\$188,841,58
	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$100,041,30
	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	6.00	\$6,561,768	0.00	3
	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	0.00	5
	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	
	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	0.00	
	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	
	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	
uildin	g Items						
	Intermediate Stations	LS		0.00	\$0	0.00	:
	Terminal Stations	LS		0.00	\$0	0.00	
	Parking requirements	space		0.00	\$0	0.00	
	d Utility Relocation		1				
	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	
	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	
	Single Track Removal Maior Utility Relocation - Urban	km	\$63,372	0.00	\$1 646 410	0.00	¢1 011 7
	Major Utility Relocation - Urban Major Utility Relocation - Suburban	km	\$680,338	2.42	\$1,646,419 \$385,504	2.81	\$1,911,7 \$276,1
	Major Utility Relocation - Suburban Major Utility Relocation - Undeveloped	km km	\$273,407 \$13,988	1.41 16.36	\$385,504 \$228,848	1.01 0.38	\$276,1 \$5,3
	Major Utility Relocation - Undeveloped of-Way	KIII	\$13,988	10.30	\$220,848	0.38	\$5,3
	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	3.68	\$10,074,398	4.27	\$11,689,5
-	Suburban	hectare	\$479,081	2.15	\$1,030,025	1.53	\$732,9
	Undeveloped	hectare	\$342,201	24.87	\$8,510,538	0.57	\$195,0
viror	nmental Mitigation						
	Environmental Mitigation	3% 0	f Line Cost		\$4,997,862		\$6,469
stem	Elements						
1	Signaling (ATC)	km	\$845,654	20.20			
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	20.20			
3	Wayside Protection System	km	\$67,144	20.20	\$1,356,302	4.20	\$282
ectrif	ication Items						
ı	Traction Power Supply	km	\$432,365	20.20			
2	Traction Power Distribution	km	\$806,233	20.20	\$16,285,902	4.20	\$3,386
ogra	m Implementation Costs (PER SCREENING)						
	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$48,758,099		\$59,858
nting	gencies (PER SCREENING)					_	
	Contingencies	25% of Total	Construction Cost		\$47,802,058		\$58,684
	onstruction onstruction and Right of Way (Includes Environmental Mit				\$166,595,409 \$191,208,232		\$215,652 \$234,739

COST ELEMENTS	UNIT	UNIT PRICE		QUAN	ITITIES	
lignment Cost				ng to UPRR - of Turlock NSF X-2	Turlock Southwester Mante	
rack			Quantities	Item Cost	Quantities	Item Cost
Double Track Section-Total	km		15.15		1.46	
1 Double Track Section - At Grade	km	\$993,167	15.15	\$15,046,478	1.46	\$1,447,044
Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.00	\$0
Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4 Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
Single Track Section - Total	km		0.00		0.00	
5 Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6 Single Track Section - On Streuture	km	\$939,121	0.00	\$0	0.00	\$0
7 Single Track Section - In Tunnel or Subway 8 Single Track Section - In Trench	km km	\$939,121	0.00	\$0 \$0	0.00	\$0 \$0
8 Single Track Section - In Trench 9 Freight Double Track - At Grade	km	\$939,121 \$993,167	0.00 0.00	\$0	0.00 0.00	\$0
10 Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
arthwork and Related Items	KIII	\$470,303	0.00	\$ 0	0.00	ΨΟ
1 Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2 Cut	m3	\$9	159,600	\$1,420,699	0	\$0
3 Fill	m3	\$9	435,575	\$3,877,325	169,010	\$1,504,463
4 Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5 Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6 Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7 Fencing (Both Sides of R/W)	km	\$101,733	15.15	\$1,541,253	1.46	\$148,225
8 Special Drainage Facilities	5% o	f Earthwork		\$341,964		\$82,634
tructures/Tunnels/Walls						
1 Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2 High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3 Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4 Waterway Crossing - Primary	km	\$28,876,734	0.15	\$4,331,510	0.00	\$0
5 Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.05	\$1,155,961	0.00	\$0
6 Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7 Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8 Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9 Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10 Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11 Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12 Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13 Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14 Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15 Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16 Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17 Retaining Walls	km	\$4,399,945	0.00	\$0	2.91	\$12,821,441
18 Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19 Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
rade Separations		A17.1/7.417	0.00	* 0	0.00	Φ.Ο.
1 Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
 Sreet Overcrossing HSR - Suburban Sreet Overcrossing HSR - Undeveloped 	EA EA	\$6,485,469 \$1,093,628	0.00 9.00	\$0 \$9,842,652	0.00 0.00	\$0 \$0
4 Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$9,642,652	0.00	\$0
5 Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6 Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	0.00	\$0	1.00	\$1,157,211
7 Street Bridging HSR Trench	EA	\$1,137,211	0.00	\$0	0.00	\$1,137,211
8 Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
uilding Items	LA	\$170,032	0.00	¥0	0.00	ΨΟ
1 Intermediate Stations	LS		0.00	\$0	0.00	\$0
2 Terminal Stations	LS		0.00	\$0	0.00	\$0
3 Parking requirements	space		0.00	\$0	0.00	\$0
ail and Utility Relocation		· · · · · · · · · · · · · · · · · · ·	3.00	\$5	3.00	40
Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2 Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3 Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$0
5 Major Utility Relocation - Urban	km	\$680,338	0.30	\$204,102	0.88	\$595,976
7 Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	0.58	\$159,670
8 Major Utility Relocation - Undeveloped	km	\$13,988	14.85	\$207,726	0.00	\$0
ight-of-Way						
1 Right-of-Way Required for Each Segment						
Urban	hectare	\$2,737,608	0.46	\$1,259,300	1.33	\$3,646,494
Suburban	hectare	\$479,081	0.00	\$0	0.89	\$425,424
Undeveloped	hectare	\$342,201	22.57	\$7,723,476	0.00	\$0
nvironmental Mitigation				A - 1 - 1	1	
Environmental Mitigation	3% c	f Line Cost		\$2,434,783		\$662,10
ystem Elements	T	¢045.754	45.45	¢10.011.440	4 4 1	¢4.000.11
1 Signaling (ATC)	km	\$845,654	15.15	\$12,811,662	1.46	\$1,232,11
2 Communications (w/Fiber Optic Backbone)	km	\$699,413	15.15	\$10,596,111	1.46	\$1,019,04
3 Wayside Protection System	km	\$67,144	15.15	\$1,017,227	1.46	\$97,82
lectrification Items	Line	¢422.27E	15 15	¢4 EE0 222	1 4/	\$629,95
1 Traction Power Supply 2 Traction Power Distribution	km	\$432,365	15.15	\$6,550,323	1.46	
rogram Implementation Costs (PER SCREENING)	km	\$806,233	15.15	\$12,214,426	1.46	\$1,174,6
Program Implementation Costs (PER SCREENING)	25 50/ of Total	Cost & Procurement		\$23,607,129		¢4 02E 1
	20.5% UI 10tal	COST & PLOCULEMENT		\$23,0U1,129		\$6,835,1
ontingencies (PER SCREENING)	2EO/ of Tota	Construction Cost		\$22 144 244	T	\$4 701 0
Contingencies otal Construction	25% OF 10ta	Construction Cost		\$23,144,244		\$6,701,0
JIAI CONSTRUCTION				\$81,159,418 \$92,576,976		\$22,070,2
otal Construction and Right of Way (Includes Environmental Mi	itiantion)					\$26,804,3

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				Southeaster	n Manteca		ca UPRR South
Align	ment Cost			Southeaster MC-			C-3
Track				Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		1.83		9.17	
1	Double Track Section - At Grade	km	\$993,167	1.83	\$1,818,489	9.17	\$9,105,354
3	Double Track Section - On Structure Double Track Section - In Tunnel or Subway	km km	\$1,878,243 \$1,878,243	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0 \$0	0.00	\$0
•	Single Track Section - Total	km	\$170707Z10	0.00	40	0.00	40
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Strcuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
9	Single Track Section - In Trench	km	\$939,121	0.00	\$0 \$0	0.00	\$0
10	Freight Double Track - At Grade Freight Single Track - At Grade	km km	\$993,167 \$496,583	0.00	\$0 \$0	0.00 0.00	\$0 \$0
	work and Related Items	KIII	\$470,505	0.00	40	0.00	\$0
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0	\$0	5,453	\$48,543
3	Fill	m3	\$9	212,400	\$1,890,705	1,064,923	\$9,479,540
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
7	Cut/Fill Slopes (Landscaping/Erosion Control) Fencing (Both Sides of R/W)	hectare	\$8,075 \$101,733	0.00	\$0 \$194.272	0.00	\$0 \$022.497
8	Special Drainage Facilities	km 5% of	£101,733 Earthwork	1.83	\$186,273 \$103,849	9.17	\$932,687 \$523,038
	tures/Tunnels/Walls	376 01	Lai triwUrK		\$103,047		φυ ∠ 3,U38
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles) Twin Single Track TBM w/3rd Tube (>6 Miles)	km km	\$55,464,535 \$78,846,643	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0 \$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0 \$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17 18	Retaining Walls	km	\$4,399,945	3.66	\$16,112,600	4.00	\$17,599,781
19	Containment Walls Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
	e Separations	KIII	\$30,011,210	0.00	Ψ0	0.00	40
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	20.00	\$358,608,262
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
7	Sreet Undercrossing HSR - Undeveloped Street Bridging HSR Trench	EA EA	\$1,157,211 \$0	1.00 0.00	\$1,157,211 \$0	0.00 0.00	\$0 \$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0 \$0	0.00	\$0
	ing Items	EA	\$170,032	0.00	40	0.00	40
1	Intermediate Stations	LS		0.00	\$0	0.00	\$0
2	Terminal Stations	LS		0.00	\$0	0.00	\$0
3	Parking requirements	space		0.00	\$0	0.00	\$0
Rail	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Relocation (permanent) Single Track Removal	km km	\$1,271,661 \$63,372	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
5	Major Utility Relocation - Urban	km km	\$63,372 \$680,338	0.00 _	\$249,004	3.30	\$2,245,933
7	Major Utility Relocation - Suburban	km	\$273,407	1.46	\$400,268	4.95	\$1,353,857
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.00	\$0	0.92	\$12,827
	-of-Way						
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	0.56	\$1,522,110	5.02	\$13,737,318
	Suburban	hectare	\$479,081	2.23	\$1,065,956	7.53	\$3,606,045
in de	Undeveloped onmental Mitigation	hectare	\$342,201	0.00	\$0	1.39	\$477,028
_11711	Environmental Mitigation	3% 0	f Line Cost		\$814,147		\$12,781,38
Syste	m Elements	3/60	. Enic Gost		ψυ14,147	<u> </u>	Ψ12,/01,30
1	Signaling (ATC)	km	\$845,654	1.83	\$1,548,393	9.17	\$7,752,95
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	1.83	\$1,280,626	9.17	\$6,412,22
3	Wayside Protection System	km	\$67,144	1.83	\$122,940	9.17	\$615,57
	rification Items						
1	Traction Power Supply	km	\$432,365	1.83	\$791,660	9.17	
2	Traction Power Distribution	km	\$806,233	1.83	\$1,476,212	9.17	\$7,391,5
rog	ram Implementation Costs (PER SCREENING)	2E F0/ af T-1-1	Coct & Dressmann		¢7 707 010		¢11/ 44F 14
'ont	Program Implementation Costs ngencies (PER SCREENING)	25.5% Of Total	Cost & Procurement		\$7,787,812		\$116,445,19
ont	Contingencies	25% of Total	Construction Cost		\$7,635,110		\$114,161,95
Catal	Construction	2376 ULTUIAI	CONSTRUCTION COST		\$27,138,228		\$426,046,03
	Construction and Right of Way (Includes Environmental Mit	igation)			\$30,540,441		\$456,647,80

High-Speed Train Alignment Alternatives UPRR North-South Segment Breakdown

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
Aliar	nment Cost			Manteca to E		Northern Escato	
Γrac	K			Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		4.28		4.30	
1	Double Track Section - At Grade	km	\$993,167	4.28	\$4,248,768	4.30	\$4,270,617
2	Double Track Section - On Structure	km	\$1,878,243	0.00	\$0	0.00	\$0
3	Double Track Section - In Tunnel or Subway	km	\$1,878,243	0.00	\$0	0.00	\$0
4	Double Track Section - In Trench	km	\$1,878,243	0.00	\$0	0.00	\$0
5	Single Track Section - Total Single Track Section - At Grade	km km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - At Grade Single Track Section - On Strouture	km	\$939,121	0.00	\$0 \$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
art	nwork and Related Items					·	
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0	\$0	0	\$0
3	Fill	m3	\$9	183,960	\$1,637,543	92,410	\$822,599
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$C
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
6	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$0
7	Fencing (Both Sides of R/W)	km	\$101,733	4.28	\$435,213	4.30	\$437,451
8	Special Drainage Facilities	5% 0	f Earthwork		\$103,638		\$63,003
1	ctures/Tunnels/Walls Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$(
2	High Structure	km km	\$13,733,933 \$16,480,720	0.00	\$0 \$0	0.00	\$0
3	Long Span Structure	km	\$16,480,720	0.00	\$0 \$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0 \$0	0.00	\$0
5	Waterway Crossing - Prinary Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0 \$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$(
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$(
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$(
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$(
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$(
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17	Retaining Walls	km	\$4,399,945	0.00	\$0	7.04	\$30,975,615
18	Containment Walls	km	\$1,500,559	0.00	\$0	0.00	\$0
19	Single Track Cut and Cover Subway	km	\$30,077,276	0.00	\$0	0.00	\$0
rad	e Separations						
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
5	Sreet Undercrossing HSR - Urban Sreet Undercrossing HSR - Suburban	EA	\$17,930,413	0.00 0.00	\$0 \$0	0.00 0.00	\$C \$C
6	Sreet Undercrossing HSR - Undeveloped	EA EA	\$6,866,967 \$1,157,211	1.00	\$1,157,211	5.00	\$5,786,055
7	Street Bridging HSR Trench	EA	\$1,137,211	0.00	\$1,137,211	0.00	\$5,780,050
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$(
	ling Items	L,	\$170,00Z	0.00		0.00	
1	Intermediate Stations	LS		0.00	\$0	0.00	\$(
2	Terminal Stations	LS		0.00	\$0	0.00	\$(
3	Parking requirements	space		0.00	\$0	0.00	\$(
	and Utility Relocation						
1	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (permanent)	km	\$1,271,661	0.00	\$0	0.00	\$0
3	Single Track Removal	km	\$63,372	0.00	\$0	0.00	\$(
5	Major Utility Relocation - Urban	km	\$680,338	3.38	\$2,300,360	1.94	\$1,316,45
7	Major Utility Relocation - Suburban	km	\$273,407	0.00	\$0	0.00	\$(
8	Major Utility Relocation - Undeveloped	km	\$13,988	0.90	\$12,573	2.37	\$33,082
_	t-of-Way		T "				
1	Right-of-Way Required for Each Segment		40		****		40
	Urban	hectare	\$2,737,608	5.14	\$14,068,569	2.94	\$8,051,300
	Suburban	hectare	\$479,081	0.00	\$0	0.00	\$1,220,50
m	Undeveloped	hectare	\$342,201	1.37	\$467,447	3.59	\$1,228,50
ΠVI	ronmental Mitigation Environmental Mitigation	201 -	f Line Cost		\$662,732	1	\$1,678,9
vet	em Elements	3% 0	I FILE COST		\$UOZ,13Z	1	\$1,078,9
yst 1	Signaling (ATC)	km	\$845,654	4.28	\$3,617,709	4.30	\$3,636,3
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	4.28	\$2,992,090		\$3,030,3
3	Wayside Protection System	km	\$67,144	4.28	\$2,772,070		\$3,007,4
	rification Items	KIII	Ψ07,144	4.20	Ψ2U1,241	4.50	Ψ200,7
1	Traction Power Supply	km	\$432,365	4.28	\$1,849,656	4.30	\$1,859,1
2	Traction Power Distribution	km	\$806,233	4.28	\$3,449,064		\$3,466,8
	ram Implementation Costs (PER SCREENING)	MII	\$555,255	7.20	201.17,004	7.50	\$5,700,0
- 9	Program Implementation Costs	25.5% of Total	Cost & Procurement		\$9,508,902		\$17,065,1
ont	ingencies (PER SCREENING)	, , , , , , , , , , , , , , , , , , , ,			. ,,,,,,,,		,
	Contingencies	25% of Total	Construction Cost		\$9,322,453		\$16,730,5
ota	Construction				\$22,091,064		\$55,963,3
	Construction and Right of Way (Includes Environmental Mit	igation)			\$37,289,811		\$66,922,0
ota	Construction and Right of Way (includes Environmental with	igation)			\$37,207,011		\$00,722.0

High-Speed Train Alignment Alternatives UPRR North-South Segment Breakdown

	COST ELEMENTS	UNIT	UNIT PRICE		QUAN	TITIES	
				Southern Escato		Southern Escat (Pa	on Wye to BNS rt 2)
	ment Cost			MC	-6	M	C-7
racl			T	Quantities	Item Cost	Quantities	Item Cost
	Double Track Section-Total	km		22.84		14.17	
1	Double Track Section - At Grade	km	\$993,167	22.84	\$22,685,917	14.17	\$14,070,195
3	Double Track Section - On Structure	km	\$1,878,243	0.00 0.00	\$0 \$0	0.00 0.00	\$0 \$0
4	Double Track Section - In Tunnel or Subway Double Track Section - In Trench	km km	\$1,878,243 \$1,878,243	0.00	\$0 \$0	0.00	\$0
4	Single Track Section - Total	km	\$1,070,243	0.00	\$0	0.00	\$0
5	Single Track Section - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
6	Single Track Section - On Struuture	km	\$939,121	0.00	\$0	0.00	\$0
7	Single Track Section - In Tunnel or Subway	km	\$939,121	0.00	\$0	0.00	\$0
8	Single Track Section - In Trench	km	\$939,121	0.00	\$0	0.00	\$0
9	Freight Double Track - At Grade	km	\$993,167	0.00	\$0	0.00	\$0
10	Freight Single Track - At Grade	km	\$496,583	0.00	\$0	0.00	\$0
arth	nwork and Related Items						
1	Site Preparation - Undeveloped	hectare	\$12,081	0.00	\$0	0.00	\$0
2	Cut	m3	\$9	0	\$0	. 0	\$0
3	Fill	m3	\$9	365,470	\$3,253,276	565,316	\$5,032,226
4	Borrow	m3	\$13.35	0.00	\$0	0.00	\$0
5	Spoil	m3	\$0.00	0.00	\$0	0.00	\$0
7	Cut/Fill Slopes (Landscaping/Erosion Control)	hectare	\$8,075	0.00	\$0	0.00	\$1.441.249
	Fencing (Both Sides of R/W)	km	\$101,733	22.84	\$2,323,782	14.17	
8 Struc	Special Drainage Facilities ctures/Tunnels/Walls	5% 0	f Earthwork		\$278,853		\$323,674
1	Standard Structure	km	\$13,733,933	0.00	\$0	0.00	\$0
2	High Structure	km	\$16,480,720	0.00	\$0 \$0	0.00	\$0
3	Long Span Structure	km	\$37,577,568	0.00	\$0	0.00	\$0
4	Waterway Crossing - Primary	km	\$28,876,734	0.00	\$0	0.00	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	km	\$23,119,226	0.00	\$0	0.00	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	km	\$75,040,254	0.00	\$0	0.00	\$0
7	Twin Single Track TBM (<6 Miles)	km	\$55,464,535	0.00	\$0	0.00	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	km	\$78,846,643	0.00	\$0	0.00	\$0
9	Double Track Drill & Blast	km	\$83,740,573	0.00	\$0	0.00	\$0
10	Double Track Mined (Soft Soil)	km	\$96,247,282	0.00	\$0	0.00	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$94,803,899	0.00	\$0	0.00	\$0
12	Crossovers	ea	\$94,803,899	0.00	\$0	0.00	\$0
13	Cut & Cover Double Track Tunnel	km	\$48,123,641	0.00	\$0	0.00	\$0
14	Trench Short	km	\$49,668,587	0.00	\$0	0.00	\$0
15	Trench Long	km	\$39,272,836	0.00	\$0	0.00	\$0
16	Mechanical & Electrical for Tunnels	km	\$1,931,362	0.00	\$0	0.00	\$0
17 18	Retaining Walls Containment Walls	km	\$4,399,945	0.00	\$0 \$0	0.00 0.00	\$0 \$0
19	Single Track Cut and Cover Subway	km km	\$1,500,559 \$30,077,276	0.00	\$0 \$0	0.00	\$0
	e Separations	KIII	\$30,077,270	0.00	ΨΟ	0.00	ΨΟ
1	Sreet Overcrossing HSR - Urban	EA	\$17,167,417	0.00	\$0	0.00	\$0
2	Sreet Overcrossing HSR - Suburban	EA	\$6,485,469	0.00	\$0	0.00	\$0
3	Sreet Overcrossing HSR - Undeveloped	EA	\$1,093,628	0.00	\$0	0.00	\$0
4	Sreet Undercrossing HSR - Urban	EA	\$17,930,413	0.00	\$0	9.00	\$161,373,718
5	Sreet Undercrossing HSR - Suburban	EA	\$6,866,967	0.00	\$0	0.00	\$0
6	Sreet Undercrossing HSR - Undeveloped	EA	\$1,157,211	18.00	\$20,829,799	0.00	\$0
7	Street Bridging HSR Trench	EA	\$0	0.00	\$0	0.00	\$0
8	Minor crossing closure	EA	\$178,032	0.00	\$0	0.00	\$0
	ling Items		T				
1	Intermediate Stations	LS		0.00	\$0	0.00	\$0
2	Terminal Stations	LS		0.00	\$0	0.00	\$0
3 Pail :	Parking requirements and Utility Relocation	space		0.00	\$0	0.00	\$0
dil a	Single Track Relocation (temporary)	km	\$1,271,661	0.00	\$0	0.00	\$0
2	Single Track Relocation (temporary) Single Track Relocation (permanent)	km km	\$1,271,661	0.00	\$0 \$0	0.00	\$0
3	Single Track Renoval	km	\$1,271,001	0.00	\$0 \$0	0.00	\$0
5	Major Utility Relocation - Urban	km	\$680,338	1.37	\$932,744	0.00	\$0
7	Major Utility Relocation - Suburban	km	\$273,407	0.23	\$62,474	0.00	\$0
8	Major Utility Relocation - Subdibari	km	\$13,988	21.24	\$297,111	14.17	\$198,214
	t-of-Way				,		Ţ.,O,E14
1	Right-of-Way Required for Each Segment						
	Urban	hectare	\$2,737,608	2.08	\$5,705,176	0.00	\$0
	Suburban	hectare	\$479,081	0.35	\$166,241	0.00	\$0
	Undeveloped	hectare	\$342,201	32.29	\$11,049,669	21.54	\$7,370,324
nvir	onmental Mitigation						
	Environmental Mitigation	3% 0	f Line Cost		\$3,473,464		\$6,684,80
	em Elements				44.5.5		
1	Signaling (ATC)	km	\$845,654	22.84	\$19,316,434	14.17	
2	Communications (w/Fiber Optic Backbone)	km	\$699,413	22.84	\$15,975,998		
3	Wayside Protection System	km	\$67,144	22.84	\$1,533,696	14.17	\$951,2
	rification Items	Long	£400.075	22.21	¢0.077.070	4447	e/ 10E 0
1	Traction Power Supply	km	\$432,365	22.84	\$9,876,072		
2	Traction Power Distribution	km	\$806,233	22.84	\$18,415,969	14.17	\$11,421,9
rog	ram Implementation Costs (PER SCREENING)	25 50/ of Total	Cost & Proguroment	T T	\$24 72E 0F2	I	\$40.404.0
,0~,	Program Implementation Costs ingencies (PER SCREENING)	25.5% 0f 10tal	Cost & Procurement		\$34,725,052		\$60,404,8
ont		2E0/ of Tot-	Construction Cost		\$24.044.170		¢E0 220 4
otal	Contingencies	∠5% 0ī 10tā	Construction Cost		\$34,044,168		\$59,220,4
υται	Construction Construction and Right of Way (Includes Environmental Mit				\$115,782,124 \$136,176,673		\$222,826,6 \$236,881,8

APPENDIX 4-D

CAPITAL COST: HST STATION LOCATION OPTION (SUMMARY AND STATION BREAKDOWN)

Appendix 4-D Summary High-Speed Train Passenger Station Cost

	Station		EIR/EIS Cost ¹
	Terminal Station		
S1	4th & King Station (Caltrain1-2, Caltrain Urban Tunnel)	ea	\$791,939,27
S2	Transbay Transit Center Station (Caltrain1-TB1, Urban - Tunnel)	ea	\$786,262,41
S3	West Oakland/7th Street Station (Niles/I-880 1A, Urban - Tunnel)	ea	\$611,197,0
S4	12th Street/City Center Station (Niles/I-880 1B, Urban - Tunnel)	ea	\$611,197,0
	Intermediate Station		
S5	San Jose Diridon Station (Caltrain 8-Pacheco 1, Urban - Aerial)	ea	\$185,051,79
S6	Millbrae/SFO Station (Caltrain 2-3, Urban - At Grade)	ea	\$29,076,60
S7	Redwood City Station (Caltrain 3-4, Urban - At Grade)	ea	\$67,516,5
S8	Palo Alto (Caltrain 6-7, Urban - At Grade)	ea	\$67,516,5
S9	Coliseum/Airport Station (Niles/I-880 2-3, Urban - At-Grade)	ea	\$61,735,8
S10	Union City (BART) Station (Niles/I-880 3-4, Urban - Aerial)	ea	\$69,853,0
S11	Union City (Shinn) Station (Niles/I-880 4-5, Urban - Aerial)	ea	\$310,150,4
S12	Fremont (Warm Springs) Station (Niles/I-880 5-6, Suburban - Aerial)	ea	\$156,875,18
S13	Newark Station (Caltrain 2-3, Suburban - Aerial)	ea	\$310,150,40
S14	Pleasanton (BART) Station (I-680/580/UPRR 1-2, Suburban - Aerial)	ea	\$316,675,3
S15	Pleasanton (I-680/Bernal) Station (UPRR 3-4, Suburban - At Grade)	ea	\$72,639,5
S16	Livermore 1 (I-580) Station (I-680/580/UPRR 3-4, Undeveloped - Aerial)	ea	\$151,769,4
S17	Livermore 2 (Downtown) Station (UPRR 5-6, Urban - At Grade)	ea	\$73,297,2
S18	Livermore 2 (Downtown) Station (UPRR 5-6, Urban - Aerial)	ea	\$314,667,6
S19	Livermore (Greenville Road/I-580) Station (I-680/580/UPRR 4-5, Undeveloped - Aerial)	ea	\$160,180,9
S20	Livermore (Greenville Road/UPRR) Station	ea	\$72,639,5
S21	Tracy 1 (Downtown) Station (UPRR 10-11, Urban - Aerial)	ea	\$310,150,4
S22	Tracy 2 (Existing ACE) Station (SUPRR 2-3, Suburban - Aerial)	ea	\$314,667,6
S23	Gilroy (Caltrain) Station (Pacheco 2-3, Urban - Aerial)	ea	\$148,256,0
S24	Morgan Hill (Caltrain) Station (Pacheco 1-2, Suburban - Aerial)	ea	\$284,985,2
S25	Modesto Downtown Station (UPRR N/S 4-5A/B, Urban - At Grade)	ea	\$71,428,0
S26	Briggsmore (Amtrak) Station (BNSF N/S 4-5, Suburban - At-Grade)	ea	\$71,428,0
S27	Merced Downtown Station (UPRR N/S 7-8, BNSF N/S 7-8, Urban - At-Grade)	ea	\$71,428,0
S28	Castle Air Force Base Station (BNSF N/S 6-7, BNSF Castle 1-2, Suburban - At-Grade)	ea	\$71,428,0
020	Intermediate Station (Local Service Option)	cu	ψ, 1, 120,0
S29	Union City (Shinn) Station (Niles/I-880 4-5, Urban - Aerial)	ea	\$300,146,6
S30	Newark Station (Caltrain 2-3, Suburban - Aerial)	ea	\$300,146,6
S31	Pleasanton (BART) Station (I-680/580/UPRR 1-2, Suburban - Aerial)	ea	\$297,325,5
S32	Pleasanton (I-680/Bernal) Station (UPRR 3-4, Suburban - At Grade)	ea	\$58,118,5
S33	Livermore 1 (I-580) Station (I-680/580/UPRR 3-4, Undeveloped - Aerial)	ea	\$132,402,3
S34	Livermore 2 (Downtown) Station (UPRR 5-6, Urban - At Grade)	ea	\$58,758,9
S35	Livermore 2 (Downtown) Station (UPRR 5-6, Urban - Aerial)	ea	\$300,146,6
S36	Livermore (Greenville Road/I-580) Station (I-680/580/UPRR 4-5, Undeveloped - Aerial)	ea	\$140,813,8
S37	Livermore (Greenville Road/UPRR) Station	ea	\$58,118,5
S38	Tracy 1 (Downtown) Station (UPRR 10-11, Urban - Aerial)		\$300,146,6
S39	Tracy 2 (Existing ACE) Station (SUPRR 2-3, Suburban - Aerial)	ea	\$300,146,6
000	Tracy 2 (Existing ACE) Station (SOFTITE 2-5, Suburban - Actian)	ea	\$300,170,0
		+ +	
		+ +	
		+	
		+	
		1 I	

HIGH-SPEED TRAIN PASSANGER STATION BREAKDOWN

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

DATE: 3/1/2007

Terminal Station

S1 - 4th & King Station (Caltrain 1-2, Caltrain Urban Tunnel)

lto							
Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	Inspection Platform Side-By-Side w/Passenger Platform						
	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	12.00	\$109,199	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	12.00	\$11,345,324	\$11,454,523
2	Earthwork						\$11,454,523
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86		\$0	
	Device 0 Overfacion available						\$0
	Paving & Surfacing- excluded						
							\$0
4	Piped Utilities- excluded						
-							\$0
5	Site Structural Work						
	Cut & Cover Structure - Incl. Earthwork, Support System & Structure	HECT	\$26,206,000.00	\$30,970,371.38	12.00	\$371,644,457	
- 6	Track work						\$371,644,457
Ť	Direct Fixation	М	\$800.23	\$945.72	8,000	\$7,565,724	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$365,000.00	\$431,358.68	4	\$1,725,435	
-	Crossover, No. 32.7 w. Conc. Ties Bumping Posts	EA EA	\$750,000.00 \$50,000.00	\$886,353.45 \$59,090.23	<u>2</u>	\$1,772,707 \$354,541	
	Heavy Duty Rubber Grade Crossing		,	,			
	Station Electrical Work						\$11,418,407
	CCTV & Security System- excluded	 	 				
	Communication System-excluded						
	Lighting- See Item 10						\$0
8	Traction Power	<u> </u>	<u> </u>				30
	(Included in Overall Estimate)						
0	Train Control						\$0
	(Included in Overall Estimate)						
							\$0
10	Station Platform and Inspection Facility Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps Diefferen Clab	SM SM	\$175.00 \$120.00	\$206.82 \$141.82	10,800 10,800	\$2,233,611	
	Platform Slab Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$1,531,619 \$709,083	
	Platform Finish Work- excluded						
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM SM	\$340.00 \$160.00	\$401.81 \$189.09	10,800 10,800	\$4,339,586 \$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$17,727	
	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	platform EA	\$45,000.00 \$20,000.00	\$53,181.21 \$23,636.09	12	\$159,544 \$283,633	
	Inspection Platforms: Under Car/Component Inspection Area	SM	\$73.00	\$86.27	10,800	\$931,735	
	Lighting	SM	\$90.00	\$106.36	10,800	\$1,148,714	
	Inspection Pit	M	\$2,300.00	\$2,718.15	2,400	\$6,523,561	
-	Inspection Pit Rail Support Vehicle Floor Level Inspection Platform- Str. Steel	M SM	\$945.00 \$405.00	\$1,116.81 \$478.63	2,400 10,800	\$2,680,333 \$5,169,213	
	Vehicle Floor Level Inspection Platform- Grating & Railing	SM	\$270.00	\$319.09	10,800	\$3,446,142	
	Lighting Vehicle Roof Level Inspection Platform- Str. Steel	SM SM	\$90.00 \$485.00	\$106.36 \$573.18	10,800 10,800	\$1,148,714 \$6,190,293	
	Vehicle Roof Level Inspection Platform- Str. Steel Vehicle Roof Level Inspection Platform- Grating & Railing	SM	\$485.00 \$270.00	\$319.09	10,800	\$3,446,142	<u> </u>
	Lighting Pole Mounted	SM	\$110.00	\$130.00	10,800	\$1,403,984	
\dashv	Maint. Equipments & Tools Pedestiran Crossing	Platform	\$100,000.00	\$118,180.46	4	\$472,722	
	Overcrossing	EA		\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA	1	\$10,900,000.00		\$0	
							\$55,649,561
- 44	Station Ruilding & Access to Platforms						
- 11	Passenger Terminal (300'x200' Foot Print)	SM	\$540.00	\$638.17	11,000	\$7,019,919	
	Ticketing (Enclosed)		\$3,200.00	\$3,781.77	100	\$378,177	
	Sub-Total	-	 				\$7,398,097 \$457,570,000
\dashv	Mobilization & Indirect Field Cost	+	15%				\$68,635,500
-	Subtotal- Construction Cost- Base (year 2006 dollars)	<u> </u>	1				\$526,205,500
\dashv	Escalation to Midpoint of Construction- not included	1	1				
\neg	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$131,551,375
	Subtotal- Construction Cost (Not Escalated)						\$657,756,875
	Project Conceptual & Preliminary Engineering		ļ				
	Final Engineering Design Cost	ļ	ļ				
	Construction Management 9 In 0 0 400/						
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition						
							\$134,182,403

HIGH-SPEED TRAIN PASSANGER STATION BREAKDOWN

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

DATE: 3/1/2007

Terminal Station

S2 - Transbay Transit Center Station (Caltrain 1-TB, Urban - Tunnel)

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cos
	Inspection Platform Side-By-Side w/Passenger Platform						
1	Site Clearing	ИГСТ	67 700 00	£0,000,00	12.00	£100 100	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	12.00 12.00	\$109,199 \$11,345,324	
			, , , , , , , , , , , , , , , , , , ,	40.00,1.000		* * * * * * * * * * * * * * * * * * *	\$11,454,52
2	Earthwork	140	67.50	60.00			
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86		\$0	\$
3	Paving & Surfacing- excluded						,
							\$
4	Piped Utilities- excluded						3
_	Old Others (Wash						\$
5	Site Structural Work Cut & Cover Structure - Incl. Earthwork, Support System & Structure	HECT	\$26,206,000.00	\$30,970,371.38	12.00	\$371,644,457	
			,	700,010,01100		7011,011,111	\$371,644,45
6	Track work	L	*****	2015 70	0.500	*********	
	Direct Fixation Turnouts, No. 26.5 W. Conc. Ties	M EA	\$800.23 \$365,000.00	\$945.72 \$431,358.68	2,560	\$2,421,032 \$1,725,435	
	Crossover, No. 26.5 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4	\$3,545,414	<u> </u>
	Bumping Posts	EA	\$50,000.00	\$59,090.23	6	\$354,541	
	Heavy Duty Rubber Grade Crossing	-	-				\$8,046,4
7	Station Electrical Work						¥0,0+0,42
	CCTV & Security System- excluded						
-	Communication System-excluded Lighting- See Item 10	1					-
	Egrang- occ term to						:
8	Traction Power						
	(Included in Overall Estimate)						
9	Train Control						
	(Included in Overall Estimate)						
10	Station Platform and Inspection Facility						;
10	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps Platform Slab	SM SM	\$175.00 \$120.00	\$206.82 \$141.82	10,800 10,800	\$2,233,611 \$1,531,619	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded						
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM SM	\$340.00 \$160.00	\$401.81 \$189.09	10,800 10,800	\$4,339,586 \$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$17,727	
	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	platform EA	\$45,000.00 \$20,000.00		3 12	\$159,544 \$283,633	
	Wildeston Choice 1 dd. 1 of 1 iddioni		\$20,000.00	\$20,000.00		Ψ200,000	
	Inspection Platforms:	011	ATIC 00	***	40.000	0004 705	
	Under Car/Component Inspection Area Lighting	SM SM	\$73.00 \$90.00	\$86.27 \$106.36	10,800 10,800	\$931,735 \$1,148,714	
	Inspection Pit	M	\$2,300.00		2,400	\$6,523,561	
	Inspection Pit Rail Support	M	\$945.00		2,400	\$2,680,333	
-	Vehicle Floor Level Inspection Platform- Str. Steel Vehicle Floor Level Inspection Platform- Grating & Railing	SM SM	\$405.00 \$270.00		10,800 10,800	\$5,169,213 \$3,446,142	
	Lighting	SM	\$90.00	\$106.36	10,800	\$1,148,714	
\Box	Vehicle Roof Level Inspection Platform- Str. Steel	SM	\$485.00	\$573.18	10,800	\$6,190,293	
	Vehicle Roof Level Inspection Platform- Grating & Railing Lighting Pole Mounted	SM SM	\$270.00 \$110.00	\$319.09 \$130.00	10,800 10,800	\$3,446,142 \$1,403,984	
	Maint. Equipments & Tools	Platform	\$100,000.00		4	\$472,722	İ
\Box	Pedestiran Crossing Oursessaling	F.*		67.040.000.00		67.040.000	
-	Overcrossing Undercrossing	EA EA	 	\$7,942,000.00 \$10,900,000.00	1	\$7,942,000 \$0	1
				Ţ. I,000,000.00		ΨΟ	
							\$55,649,5
11	Station Building & Access to Platforms	-	-				-
	Passenger Terminal (Station Category I)	SM	\$540.00	\$638.17	11,154	\$7,118,198	<u> </u>
	Ticketing (Enclosed)		\$3,200.00	\$3,781.77	100	\$378,177	
-	Sub-Total	1					\$7,496,3° \$454,290,00
	Mobilization & Indirect Field Cost	1	15%				\$68,143,5
	Subtotal- Construction Cost- Base (year 2003 dollars)						\$522,433,5
	Escalation to Midpoint of Construction- not included	1	1				, , , , , ,
	Right of way Acquisition	1					
	Continue de la 105% of Total Construction Conti						\$130,608,3
	Contingencies (25% of Total Construction Cost)		1	1			\$653,041,8
	Subtotal- Construction Cost (Not Escalated)						
	Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering						,,
	Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost						, , , , ,
	Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%						
	Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						
	Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%						\$133,220,5

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

DATE: 3/1/2007

Terminal Station S3 - West Oakland/7th Street Station (Niles/I-880 1A, Urban -Tunnel)

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	Inspection Platform Behind Passenger Platform						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	9.00	\$81,899	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	9.00	\$8,508,993	\$8,590,892
2	Earthwork						\$8,590,892
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
							\$0
4	Piped Utilities- excluded						
							\$0
5	Site Structural Work						, ,
	Cut & Cover Structure - Incl. Earthwork, Support System & Structure	HECT	\$26,206,000.00	\$30,970,371.38	9.00	\$278,733,342	
							\$278,733,342
б	Track work Direct Fixation	M	\$800.23	\$945.72	7,000	\$6,620,008	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$365,000.00		2	\$862,717	<u> </u>
	Crossover, No. 32.7 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	2	\$1,772,707	
	Bumping Posts Heavy Duty Rubber Grade Crossing	EA	\$50,000.00	\$59,090.23	4	\$236,361	
		<u> </u>	<u> </u>				\$9,491,794
7	Station Electrical Work						
	CCTV & Security System- excluded Communication System-excluded		1	 			
	Lighting- See Item 10	<u> </u>	<u> </u>				<u> </u>
							\$0
8	Traction Power (Included in Overall Estimate)						
	(Included in Overall Estimate)						\$0
9	Train Control						
	(Included in Overall Estimate)						\$0
10	Station Platform and Inspection Facility						ψŪ
	Platforms:						
	Foundation- Pier Caissons Pier Caps	SM SM	170 \$175.00	\$200.91 \$206.82	7,200 7,200	\$1,446,529 \$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	1,600	\$472,722	
	Platform Finish Work- excluded Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage Platform Furnishing	platform platform	\$5,000.00 \$45,000.00	\$5,909.02 \$53,181.21	2	\$11,818 \$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Inspection Platforms:						
	Under Car/Component Inspection Area	SM	\$73.00	\$86.27	11,400	\$983,498	
	Lighting	SM	\$90.00	\$106.36	11,400	\$1,212,532	
	Inspection Pit Inspection Pit Rail Support	M M	\$2,300.00 \$945.00	\$2,718.15 \$1,116.81	1,600 1,600	\$4,349,041 \$1,786,889	
	Vehicle Floor Level Inspection Platform- Str. Steel	SM	\$405.00	\$478.63	11,400	\$5,456,392	<u> </u>
	Vehicle Floor Level Inspection Platform- Grating & Railing	SM	\$270.00		11,400	\$3,637,595	
	Lighting Vehicle Roof Level Inspection Platform- Str. Steel	SM SM	\$90.00 \$485.00	\$106.36 \$573.18	11,400 11,400	\$1,212,532 \$6,534,198	
	Vehicle Roof Level Inspection Platform- Grating & Railing	SM	\$270.00	\$319.09	11,400	\$3,637,595	
$\vdash =$	Lighting Pole Mounted	SM	\$110.00 \$100,000.00	\$130.00 \$118,180.46	11,400	\$1,481,983 \$590,902	
	Maint. Equipments & Tools Pedestiran Crossing	Platform	φ 100,000.00	φ118,18U.4b	5	დემ <u>ს,</u> 902	
	Overcrossing	EA		\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA	+	\$10,900,000.00		\$0	
		 	+				\$48,922,493
11	Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print)	SM	\$540.00	\$638.17	11,000	\$7,019,919	
	Ticketing (Enclosed)	Sivi	\$3,200.00	\$3,781.77	100	\$378,177	
						· · · · · ·	\$7,398,097
-	Sub-Total Mobilization & Indirect Field Cost	 	15%				\$353,140,000 \$52,971,000
	Subtotal- Construction Cost- Base (year 2003 dollars)	 	1370				\$406,111,000
	Escalation to Midpoint of Construction- not included						, , , , , , , , , , , , , , , , , , , ,
	Right of way Acquisition		<u> </u>				¢404 507 75
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	1	+				\$101,527,750 \$507,638,750
	Project Conceptual & Preliminary Engineering	 	+				ψ501,030,750
	Final Engineering Design Cost						
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition Owner Administration & Engineering	 	1				
	Program Implementation Costs (25.5% of Total Cost & Procurement)	 	+				\$103,558,305
	Total Estimated Project Cost	1	1				\$611,197,055

HIGH-SPEED TRAIN PASSANGER STATION BREAKDOWN

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

DATE: 3/1/2007

Terminal Station S4 - 12th Street/City Center Station (Niles/I-880 1B, Urban - Tunnel)

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	Inspection Platform Behind Passenger Platform						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	9.00	\$81,899	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	9.00	\$8,508,993	\$8,590,892
2	Earthwork						\$8,590,892
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
							\$0
4	Piped Utilities- excluded						
							\$0
5	Site Structural Work						, ,
	Cut & Cover Structure - Incl. Earthwork, Support System & Structure	HECT	\$26,206,000.00	\$30,970,371.38	9.00	\$278,733,342	
							\$278,733,342
б	Track work Direct Fixation	M	\$800.23	\$945.72	7,000	\$6,620,008	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$365,000.00		2	\$862,717	<u> </u>
	Crossover, No. 32.7 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	2	\$1,772,707	
	Bumping Posts Heavy Duty Rubber Grade Crossing	EA	\$50,000.00	\$59,090.23	4	\$236,361	
		<u> </u>	<u> </u>				\$9,491,794
7	Station Electrical Work						
	CCTV & Security System- excluded Communication System-excluded		1	 			
	Lighting- See Item 10	<u> </u>	<u> </u>				<u> </u>
							\$0
8	Traction Power (Included in Overall Estimate)						
	(Included in Overall Estimate)						\$0
9	Train Control						
	(Included in Overall Estimate)						\$0
10	Station Platform and Inspection Facility						ψŪ
	Platforms:						
	Foundation- Pier Caissons Pier Caps	SM SM	170 \$175.00	\$200.91 \$206.82	7,200 7,200	\$1,446,529 \$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	1,600	\$472,722	
	Platform Finish Work- excluded Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage Platform Furnishing	platform platform	\$5,000.00 \$45,000.00	\$5,909.02 \$53,181.21	2	\$11,818 \$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Inspection Platforms:						
	Under Car/Component Inspection Area	SM	\$73.00	\$86.27	11,400	\$983,498	
	Lighting	SM	\$90.00	\$106.36	11,400	\$1,212,532	
	Inspection Pit Inspection Pit Rail Support	M M	\$2,300.00 \$945.00	\$2,718.15 \$1,116.81	1,600 1,600	\$4,349,041 \$1,786,889	
	Vehicle Floor Level Inspection Platform- Str. Steel	SM	\$405.00	\$478.63	11,400	\$5,456,392	<u> </u>
	Vehicle Floor Level Inspection Platform- Grating & Railing	SM	\$270.00		11,400	\$3,637,595	
	Lighting Vehicle Roof Level Inspection Platform- Str. Steel	SM SM	\$90.00 \$485.00	\$106.36 \$573.18	11,400 11,400	\$1,212,532 \$6,534,198	
	Vehicle Roof Level Inspection Platform- Grating & Railing	SM	\$270.00	\$319.09	11,400	\$3,637,595	
$\vdash =$	Lighting Pole Mounted	SM	\$110.00 \$100,000.00	\$130.00 \$118,180.46	11,400	\$1,481,983 \$590,902	
	Maint. Equipments & Tools Pedestiran Crossing	Platform	φ 100,000.00	φ118,18U.4b	5	დემ <u>ს,</u> 902	
	Overcrossing	EA		\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA	+	\$10,900,000.00		\$0	
		 	+				\$48,922,493
11	Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print)	SM	\$540.00	\$638.17	11,000	\$7,019,919	
	Ticketing (Enclosed)	Sivi	\$3,200.00	\$3,781.77	100	\$378,177	
						· · · · · ·	\$7,398,097
-	Sub-Total Mobilization & Indirect Field Cost	 	15%				\$353,140,000 \$52,971,000
	Subtotal- Construction Cost- Base (year 2003 dollars)	 	1370				\$406,111,000
	Escalation to Midpoint of Construction- not included						, , , , , , , , , , , , , , , , , , , ,
	Right of way Acquisition		<u> </u>				¢404 507 75
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	1	+				\$101,527,750 \$507,638,750
	Project Conceptual & Preliminary Engineering	 	+				ψ501,030,750
	Final Engineering Design Cost						
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition Owner Administration & Engineering	 	+				
	Program Implementation Costs (25.5% of Total Cost & Procurement)	 	+				\$103,558,305
	Total Estimated Project Cost	1	1				\$611,197,055

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

14							
Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S5 - San Jose Diridon Station (Caltrain 8-Pacheco 1, Urban - Aerial)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	-	\$0	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	-	\$0	
							\$0
2	Earthwork	M3	\$7.50	\$8.86		\$0	
	Grading Site- Cut & Fill 1M Average	IVI3	\$7.50	\$8.80		\$0	\$0
3	Paving & Surfacing- excluded						Ģ(
	Faving & Surfacing-excluded						
							\$0
4	Piped Utilities- excluded						
							\$0
	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	5.00	\$63,521,997	
							\$63,521,997
	Track work		#000.00	8045.70	0.700	60 555 000	
	Direct Fixation Turnouts, No. 26.5 W. Conc. Ties	M FA	\$800.23 \$365,000.00	\$945.72 \$431,358.68	3,760	\$3,555,890 \$862,717	
	Turnouts, No. 26.5 w. Conc. Ties Crossover, No. 26.5 w. Conc. Ties	EA	\$365,000.00	\$431,358.68 \$886,353.45	6	\$5,318,121	
	Crossover, No. 20 w. Conc. Ties	EA	\$400,000.00	\$472,721.84	6	\$2,836,331	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing		,.	,		**	
	•						\$12,573,059
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							\$0
8	Traction Power (Included in Overall Estimate)						
	(Included in Overall Estimate)						\$0
0	Train Control						\$0
3	(Included in Overall Estimate)						
	(modeled in 5 voidin Editinate)						\$0
10	Station Platform						***
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	М	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$340.00 \$160.00	\$401.81	10,800	\$4,339,586	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$17,727	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	12	\$283,633	
	Pedestiran Crossing						
	Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
		ļ					\$26,046,008
	Otation Pullidian O. Access to District	ļ					
11	Station Building & Access to Platforms	SM	0540.00	2000 1	0.000	Ø4 400 404	
	Passenger Terminal (250'x150' Foot Print) Ticketing (Enclosed)	SM	\$540.00 \$3,200.00	\$638.17 \$3,781.77	6,900 100	\$4,403,404 \$378,177	
	noncing (Endosco)	JIVI	φ3,200.00	φ3,701.77	100	φ3/0,1//	\$4,781,581
	Sub-Total						\$106,920,000
	Mobilization & Indirect Field Cost		15%				\$16,038,000
	Subtotal- Construction Cost- Base (year 2006 dollars)						\$122,958,000
	Escalation to Midpoint of Construction- not included						, , , , , , , , , , , , , , ,
	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$30,739,500
	Subtotal- Construction Cost (Not Escalated)						\$153,697,500
	Project Conceptual & Preliminary Engineering						
	Final Engineering Design Cost	ļ					
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition						
	Owner Administration 9 Engineering						
	Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement)						\$31 354 200
	Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$31,354,290 \$185,051,790

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S6 - Millbrae/SFO Station (Caltrain 2-3, Urban - At Grade)			·			
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	-	\$0	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	-	\$0	
							\$0
2	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
							\$0
- 4	Piped Utilities- excluded						
							\$0
5	Site Structural Work						
	at grade						
							\$0
6	Track work						
	Ballasted Track Incl. Ballast and subballast	M	\$430.00	\$508.18		\$0	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$365,000.00	\$431,358.68		\$0	
	Crossover, No. 32.7 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4	\$3,545,414	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$3,545,414
7	Station Electrical Work						
	CCTV & Security System- excluded		1				
	Communication System-excluded Lighting- See Item 10	-					
	Eignung- See nem 10						\$0
	Traction Power	-					φυ
	(Included in Overall Estimate)						
	(modeled in overall Estimate)						\$0
9	Train Control						**
	(Included in Overall Estimate)						
							\$0
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	3,600	\$723,264	
	Pier Caps	SM	\$175.00	\$206.82	3,600	\$744,537	
	Platform Slab	SM	\$120.00	\$141.82	3,600	\$510,540	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	400	\$118,180	
	Platform Finish Work- excluded	014	004000	6404.04	0.000	64 440 500	
	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM SM	\$340.00 \$160.00	\$401.81 \$189.09	3,600 3,600	\$1,446,529 \$680,719	
	Station Lighting	SM	\$180.00	\$189.09 \$153.63	3,600	\$553,085	
	Signage	platform	\$5,000.00	\$5,909.02	3,000	\$5,909	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	1	\$53,181	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	4	\$94,544	
	Pedestiran Crossing			, .,,		, , , ,	
			<u> </u>	67.042.000.00	1	\$7,942,000	
	Overcrossing	EA		\$7,942,000.00			
	Overcrossing Undercrossing	EA EA		\$10,900,000.00		\$0	
							\$12,872,489
	Undercrossing						\$12,872,489
11	Undercrossing Station Building & Access to Platforms	EA		\$10,900,000.00		\$0	\$12,872,489
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print)	EA SM	\$540.00	\$10,900,000.00 \$638.17	-	\$0	\$12,872,489
11	Undercrossing Station Building & Access to Platforms	EA	\$540.00 \$3,200.00	\$10,900,000.00	- 100	\$0	
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed)	EA SM		\$10,900,000.00 \$638.17	-	\$0	\$378,177
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,177 \$16,800,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	EA SM		\$10,900,000.00 \$638.17	-	\$0	\$378,177 \$16,800,000 \$2,520,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,177 \$16,800,000 \$2,520,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,177 \$16,800,000 \$2,520,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,177 \$16,800,000 \$2,520,000 \$19,320,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,17 \$16,800,000 \$2,520,000 \$19,320,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,17 \$16,800,000 \$2,520,000 \$19,320,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction-not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,17: \$16,800,700 \$2,520,000 \$19,320,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,17: \$16,800,700 \$2,520,000 \$19,320,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,17: \$16,800,700 \$2,520,000 \$19,320,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction-not included Right of way Acquisition Contingendes (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	\$378,177 \$16,800,000 \$2,520,000 \$19,320,000 \$4,830,000 \$24,150,000
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	-	\$0	

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S7 - Redwood City Station (Caltrain 3-4, Urban - At Grade)						
1	Site Clearing						
	Site Clearing Site Demolition	HECT HECT	\$7,700.00	\$9,099.90 \$945,443.68	4.00	\$36,400	
	Site Demoition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	\$3,818,17
2	Earthwork						φ3,010,17
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	38,000.00	\$336,814	
	·		-				\$336,81
3	Paving & Surfacing- excluded						
	BL THOUGH I I I						\$
4	Piped Utilities- excluded						
							\$
5	Site Structural Work						
	At Grade						
							\$
6	Track work						
	Ballasted Track Incl. Ballast and subballast	M EA	\$430.00			\$0 \$0	
	Turnouts, No. 32.7 W. Conc. Ties Crossover, No. 32.7 w. Conc. Ties	EA EA	\$700,000.00 \$1,500,000.00	\$827,263.22 \$1,772,706.90		\$7,090,828	
	Bumping Posts	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Heavy Duty Rubber Grade Crossing	<u> </u>	Ţ11,300.00	Ţ11,100.20		Ţ,	
	·						\$7,090,82
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded Lighting- See Item 10						
	Lighting- See item 10						\$i
8	Traction Power	1					Ψ
	(Included in Overall Estimate)						
	,						\$1
9	Train Control						
	(Included in Overall Estimate)						
							\$0
10	Station Platform						
	Platforms: Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded	011		0.01.01	40.000	\$0	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM SM	\$340.00 \$160.00	\$401.81 \$189.09	10,800 10,800	\$4,339,586 \$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00				
	Platform Furnishing			\$5.909.02	3		
		platform			3	\$17,727 \$159,544	
	Windscreen Shelter- 4 ea. Per Platform	platform EA	\$45,000.00 \$20,000.00			\$17,727	
	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	EA	\$45,000.00	\$53,181.21 \$23,636.09	3	\$17,727 \$159,544 \$283,633	
	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	EA EA	\$45,000.00	\$53,181.21 \$23,636.09 \$7,942,000.00	3	\$17,727 \$159,544 \$283,633 \$0	
	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	EA	\$45,000.00	\$53,181.21 \$23,636.09	3	\$17,727 \$159,544 \$283,633	
	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	EA EA	\$45,000.00	\$53,181.21 \$23,636.09 \$7,942,000.00	3	\$17,727 \$159,544 \$283,633 \$0	\$26,046.00
	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	EA EA	\$45,000.00	\$53,181.21 \$23,636.09 \$7,942,000.00	3	\$17,727 \$159,544 \$283,633 \$0	\$26,046,008
11	Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing	EA EA EA	\$45,000.00 \$20,000.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$26,046,001
11	Windscreen Shelter- 4 ea. Per Platform Pedesliran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180%65' Foot Print)	EA EA EA	\$45,000.00 \$20,000.00 \$540.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$26,046,000
11	Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing	EA EA EA	\$45,000.00 \$20,000.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	
11	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed)	EA EA EA	\$45,000.00 \$20,000.00 \$540.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34
11	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180%65 Foot Print) Ticketing (Enclosed) Sub-Total	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00
11	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	EA EA EA	\$45,000.00 \$20,000.00 \$540.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50
11	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50
11	Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Aquisition	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50
111	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
111	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25' of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
11	Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
11	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
111	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25' of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
111	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Cost (10%) Field Changed Condition	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
11	Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25' of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	EA EA EA	\$45,000.00 \$20,000.00 \$2,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	1 2,100	\$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$26,046,001 \$1,718,34 \$39,010,001 \$5,851,505 \$44,861,501 \$11,215,377 \$56,076,871

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S8 - Palo Alto (Caltrain 6-7, Urban - At Grade)*						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	
							\$3,818,174
2	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	38,000.00	\$336,814	
^							\$336,814
3	Paving & Surfacing- excluded	-					
		-					\$(
4	Piped Utilities- excluded	-					ų.
	1 iped dunites- excluded	-					
							\$(
5	Site Structural Work						
	At Grade						
							\$0
6	Track work						
	Ballasted Track Incl. Ballast and subballast	М	\$430.00	\$508.18		\$0	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$700,000.00	\$827,263.22		\$0	-
	Crossover, No. 32.7 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing	1	-				
							\$7,090,828
7	Station Electrical Work CCTV & Security System- excluded	+	 				
	Communication System-excluded	-					
	Lighting- See Item 10	-					
	Eighting Coc Non 10	+					\$0
8	Traction Power	1					
	(Included in Overall Estimate)						
							\$0
9	Train Control						·
	(Included in Overall Estimate)						
							\$0
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded	M	\$250.00	\$295.45	2,400	\$709,083	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	10,800	\$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$17,727	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	12	\$283,633	
	Pedestiran Crossing	<u> </u>					
			<u> </u>			60	
	Overcrossing	EA		\$7,942,000.00		\$0	
		EA EA		\$7,942,000.00 \$10,900,000.00	1	\$10,900,000	
	Overcrossing				1		
	Overcrossing				1		\$26,046,008
	Overcrossing Undercrossing				1		\$26,046,008
11	Overcrossing Undercrossing Station Building & Access to Platforms	EA	PE 10.00	\$10,900,000.00		\$10,900,000	\$26,046,008
11	Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print)	EA SM	\$540.00 \$3.200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$26,046,008
11	Overcrossing Undercrossing Station Building & Access to Platforms	EA	\$540.00 \$3,200.00	\$10,900,000.00		\$10,900,000	\$26,046,008
11	Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed)	EA SM		\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,344
11	Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,344 \$39,010,000
11	Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	EA SM		\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,344 \$39,010,000 \$5,851,500
11	Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,34 \$39,010,000 \$5,851,500
11	Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,344 \$39,010,000 \$5,851,500
11	Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Mighorit of Construction- not included Right of way Acquisition	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,34 \$39,010,000 \$5,851,500 \$44,861,500
11	Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction-not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost) Subtotal-Construction Cost (Not Escalated)	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
11	Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
11	Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50
111	Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction-not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,34 \$39,010,000 \$5,851,500 \$44,861,500
11	Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,34 \$39,010,000 \$5,851,500 \$44,861,500
11	Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	\$1,718,34 \$39,010,00 \$5,851,50 \$44,861,50 \$11,215,37 \$56,076,87
11	Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	EA SM	\$3,200.00	\$10,900,000.00 \$638.17	2,100	\$10,900,000 \$1,340,166	

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S9 - Coliseum/Airport Station (Niles/I-880 2-3, Urban - At-Grade)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	
2	Factorial	_					\$3,818,174
	Earthwork Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	105,000.00	\$930,671	
	Grading Site- Cut & Fill Till Average	IVIS	\$7.50	φ0.00	103,000.00	\$930,071	\$930,671
3	Paving & Surfacing- excluded						4000,01
							\$0
4	Piped Utilities- excluded						
							\$0
5	Site Structural Work At-grade	-					
	At-grade						\$0
6	Track work						ąt.
	Ballasted Track Incl. Ballast and subballast	M	\$430.00	\$508.18	7,000	\$3,557,232	
	Turnouts, No. 40.5 W. Conc. Ties	EA	\$400,000.00	\$472,721.84	4		
	Crossover, No. 40.5 w. Conc. Ties	EA	\$800,000.00	\$945,443.68	4		
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$9,229,894
7	Station Electrical Work						
	CCTV & Security System- excluded Communication System-excluded	-					
	Lighting- See Item 10						
	Egrang- occ rom 10						\$0
8	Traction Power						
	(Included in Overall Estimate)						
							\$0
9	Train Control						
	(Included in Overall Estimate)						
							\$0
10	Station Platform						
	Platforms: Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM					
	Signage		\$130.00	\$153.63	7,200	\$1,106,169	
		platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$5,000.00 \$45,000.00	\$5,909.02 \$53,181.21	2	\$11,818 \$106,362	
	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform		\$5,000.00	\$5,909.02	2	\$11,818 \$106,362	
	Platform Furnishing	platform	\$5,000.00 \$45,000.00	\$5,909.02 \$53,181.21	2	\$11,818 \$106,362	
	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	platform EA	\$5,000.00 \$45,000.00	\$5,909.02 \$53,181.21 \$23,636.09	2 2 8	\$11,818 \$106,362 \$189,089	
	Pletform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestrian Crossing Overcrossing	platform EA	\$5,000.00 \$45,000.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	2 2 8	\$11,818 \$106,362 \$189,089 \$7,942,000	
	Pletform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestrian Crossing Overcrossing	platform EA	\$5,000.00 \$45,000.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	2 2 8	\$11,818 \$106,362 \$189,089 \$7,942,000	\$17,802,978
	Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing	platform EA	\$5,000.00 \$45,000.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	2 2 8	\$11,818 \$106,362 \$189,089 \$7,942,000	\$17,802,978
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms	platform EA EA EA	\$5,000.00 \$45,000.00 \$20,000.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$17,802,978
11	Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200x150" Foot Print)	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$17,802,978
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms	platform EA EA EA	\$5,000.00 \$45,000.00 \$20,000.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0	
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed)	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,137
11	Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200x150" Foot Print)	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$17,802,978 \$3,888,137 \$35,670,000 \$5,350,500
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed) Sub-Total	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,137 \$35,670,000 \$5,350,500
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,137 \$35,670,000 \$5,350,500
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,133 \$35,670,000 \$5,350,500 \$41,020,500
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,133 \$35,670,000 \$5,350,500 \$41,020,500
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,13 \$35,670,000 \$5,350,500 \$41,020,500
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,13 \$35,670,000 \$5,350,500 \$41,020,500
111	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,13 \$35,670,000 \$5,350,500 \$41,020,500
111	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- on included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,13 \$35,670,000 \$5,350,500 \$41,020,500
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200'x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,133 \$35,670,000 \$5,350,500 \$41,020,500
11	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (200x150' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- on included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	platform EA EA EA SM	\$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 2 8 1 1 5,500	\$11,818 \$106,362 \$189,089 \$7,942,000 \$0 \$3,509,960	\$3,888,137 \$35,670,000

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S10 - Union City (BART) Station (Niles/I-880 3-4, Urban - Aerial)						
	Site Clearing	UEOT		******		****	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	4.00 4.00	\$36,400 \$3,781,775	
	Site Definition	TILCT	\$600,000.00	φ545,445.00	4.00	φ3,761,773	\$3,818,17
2	Earthwork						40,010,11
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	73,000.00	\$647,038	
							\$647,03
3	Paving & Surfacing- excluded						
							\$
4	Piped Utilities- excluded						
							\$
5	Site Structural Work						Ψ
	at grade						
							\$
6	Track work						·
	Ballasted Track Incl. Ballast and subballast	М	\$430.00	\$508.18	4,860	\$2,469,735	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$365,000.00	\$431,358.68	4	\$1,725,435	
	Crossover, No. 32.7 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4	\$3,545,414	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$7,740,58
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded Lighting- See Item 10	ļ					
	Lighting- See term to						\$
8	Traction Power						4
	(Included in Overall Estimate)						
	(·····································						\$
9	Train Control						
	(Included in Overall Estimate)						
							\$
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded	М	\$250.00	\$295.45	800	\$236,361	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing						
	Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
		 					400 700 0
		-					\$20,760,97
- 11	Station Building 9 Access to Blotforms	-					
- 13	Station Building & Access to Platforms Passenger Terminal (300'x200' Foot Print)	SM	\$540.00	\$638.17	11,000	\$7,019,919	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
	Timbuling (Endosed)	0	ψ0,200.00	ψο,,, σ 1,		φο/ο, // /	\$7,398,09
	Sub-Total	†					\$40,360,00
	Mobilization & Indirect Field Cost		15%				\$6,054,0
	Subtotal- Construction Cost- Base (year 2006 dollars)	1					\$46,414,0
	Escalation to Midpoint of Construction- not included	1					
	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$11,603,5
	Subtotal- Construction Cost (Not Escalated)						\$58,017,5
	Project Conceptual & Preliminary Engineering	1					
	Final Engineering Design Cost	1					
	Construction Management & Inspection Costs @ 10%	1					
	Field Changed Condition Owner Administration & Engineering	+					
	Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement)	+					\$11,835,5
			1	1		1	φ11,035,5
	Total Estimated Project Cost						\$69,853,0

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

DATE: 3/1/2007

Item UNIT COST 2003\$) (June UNIT COST (Not 2006\$) DESCRIPTION UNIT QUANTITY Estimated Cost Category Total Cost S11 - Union City (Shinn) Station (Niles/I-880 4-5, Urban - Aerial) HECT Site Demolition HECT \$800,000.00 \$945,443.68 2.00 \$1,890,88 \$1,909,087 P Earthwork Grading Site- Cut & Fill 1M Average МЗ \$7.50 \$8.86 Paving & Surfacing- excluded Piped Utilities- excluded 5 Site Structural Work \$10,750,000.00 HECT \$12,704,399,46 11.00 \$139.748.394 \$139,748,394 Track work 4,860 Direct Fixation \$700,000.00 \$827,263.22 Turnouts, No. 32.7 W. Conc. Ties EΑ EΑ \$1,500,000.00 \$1,772,706.90 \$7,090,828 Bumping Posts Heavy Duty Rubber Grade Crossing EΑ \$50,000.00 \$59,090.23 \$12.869.616 Station Electrical Work CCTV & Security System- excluded Communication System-excluded Lighting- See Item 10 8 Traction Power (Included in Overall Estimate) (Included in Overall Estimate) 10 Station Platform Foundation- Pier Caissons 7,200 \$1,446,529 \$1,489,074 SM \$175.00 \$206.82 7.200 \$141.82 \$1,021,079 Platform Slab SM \$120.00 7,200 Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel М \$250.00 \$295.45 800 \$236,36 SM \$340.00 \$401.81 7,200 \$2,893,058 SM \$160.00 \$130.00 \$189.09 \$153.63 \$1,361,439 Canopy Roof Metal Deck, Roofing, Gutter, Etc 7.200 Station Lighting \$11,81 Signage Platform Furnishing The state of th platform \$45,000.00 \$53,181.21 \$106,36 \$20,000.00 \$23,636.09 \$189.08 Pedestiran Crossing EΑ \$7,942,000,00 ΕA \$10,900,000.00 \$10,900,000 Undercrossing \$20,760,978 1 Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) SM \$540.00 \$3,200.00 5,539 100 \$3,534,848 \$378,177 \$3,913,026 Sub-Total \$179,200,000 Mobilization & Indirect Field Cost 15% \$26.880.000 Subtotal- Construction Cost- Base (year 2006 dollars) \$206,080,000 Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost Subtotal- Construction Cost (Not Escalated) \$257,600,000 Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%

Field Changed Condition Owner Administration & Engineering
Program Implementation Costs (25.5% of Total Cost & Procurement)

Total Estimated Project Cost

\$52,550,40

\$310,150,400

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S12 - Fremont (Warm Springs) Station (Niles/I-880 5-6, Suburban - Aerial)						
	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	-	\$0	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	-	\$0	
							\$0
2	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
	•						
							\$0
4	Piped Utilities- excluded						
							\$0
5	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	4.00	\$50,817,598	
							\$50,817,598
6	Track work						, , ,
	Direct Fixation	M	\$800.23	\$945.72	4,860	\$4,596,177	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$365,000.00	\$431,358.68	4		
	Crossover, No. 32.7 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4	\$3,545,414	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing		ψ50,000.00	ψ00,000.20		φυ	
	Troaty Daty Trabbot Orade Orossing	 	1			-	\$9,867,026
7	Station Floatrical Work						\$3,00 <i>1</i> ,026
	Station Electrical Work CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							\$0
8	Traction Power						
	(Included in Overall Estimate)						
							\$0
9	Train Control						
	(Included in Overall Estimate)						
							\$0
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	0100.00				
			\$160.00	\$189.09	10,800	\$2,042,158	
	Station Lighting	SM	\$160.00 \$130.00			\$2,042,158 \$1,659,254	
	Signage			\$189.09 \$153.63 \$5,909.02	10,800 10,800 3		
		SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	SM platform	\$130.00 \$5,000.00	\$153.63 \$5,909.02	10,800	\$1,659,254 \$17,727	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	SM platform platform	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21	10,800 3 3	\$1,659,254 \$17,727 \$159,544	
	Signage Platform Furnishing	SM platform platform	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21	10,800 3 3	\$1,659,254 \$17,727 \$159,544	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09	10,800 3 3	\$1,659,254 \$17,727 \$159,544 \$283,633	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633	\$26,046.005
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633	\$26,046,008
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633	\$26,046,008
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing	SM platform platform EA EA EA	\$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$26,046,006
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$26,046,008
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing	SM platform platform EA EA EA	\$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,026
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,026 \$90,640,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,026 \$90,640,000 \$13,596,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,026 \$90,640,000 \$13,596,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,026 \$90,640,000 \$13,596,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,026 \$90,640,006 \$13,596,006 \$104,236,006
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,022 \$90,640,000 \$13,596,000 \$104,236,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,022 \$90,640,000 \$13,596,000 \$104,236,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,02 \$90,640,00 \$13,596,00 \$104,236,00
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,022 \$90,640,000 \$13,596,000 \$104,236,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs (00	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,022 \$90,640,000 \$13,596,000 \$104,236,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,022 \$90,640,000 \$13,596,000 \$104,236,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,026 \$90,640,000 \$13,596,000 \$104,236,000 \$26,059,000 \$130,295,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering Program Implementation Costs & Engineering	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$3,913,026 \$90,640,000 \$13,596,000 \$104,236,000 \$26,059,000 \$130,295,000
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering	SM platform platform EA EA EA	\$130,00 \$5,000,00 \$45,000,00 \$20,000,00 \$20,000,00 \$3,200,00 \$3,200,00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$0 \$10,900,000	\$26,046,008 \$3,913,026 \$90,640,000 \$13,596,000 \$104,236,000 \$130,295,000 \$26,580,180 \$26,580,180

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item		UNIT	UNIT COST (June	UNIT COST (November			
No.	DESCRIPTION	UNIT	2003\$)	2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S13 - Newark Station (Caltrain 2-3, Suburban - Aerial)						
	Site Clearing	LIEOT				210.000	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	2.00	\$18,200 \$1,890,887	
	Site Demonition	TILUT	\$600,000.00	φ943,443.00	2.00	\$1,090,007	\$1,909,087
2	Earthwork						V.,000,00 .
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
							\$0
4	Piped Utilities- excluded						φt
	1 ped danties- excluded						
							\$0
	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,394
	Track work Direct Fixation	М	\$430.00	\$508.18	4,860	\$2,469,735	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$700,000.00	\$827,263.22	4,860		
	Crossover, No. 32.7 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$12,869,616
7	Station Electrical Work						
	CCTV & Security System- excluded Communication System-excluded						
	Lighting- See Item 10						
	Lighting Coo ton 10						\$0
8	Traction Power						
	(Included in Overall Estimate)						
							\$0
9	Train Control						
	(Included in Overall Estimate)						•
10	Station Platform						\$0
10	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded	М	\$250.00	\$295.45	800	\$236,361	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
				ψ10,000,000.00	· ·	ψ.ο,οοο,οοο	
							\$20,760,978
							•
11	Station Building & Access to Platforms						
11	Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
11		SM SM	\$540.00 \$3,200.00	\$638.17 \$3,781.77	5,539 100	\$3,534,848 \$378,177	\$2.042.000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed)						
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total		\$3,200.00				\$179,200,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed)						\$179,200,000 \$26,880,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included		\$3,200.00				\$179,200,000 \$26,880,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition		\$3,200.00				\$179,200,000 \$26,880,000 \$206,080,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)		\$3,200.00				\$179,200,000 \$26,880,000 \$206,080,000 \$51,520,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction-not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated)		\$3,200.00				\$179,200,000 \$26,880,000 \$206,080,000 \$51,520,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Aquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering		\$3,200.00				\$179,200,000 \$26,880,000 \$206,080,000 \$51,520,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost		\$3,200.00				\$179,200,000 \$26,880,000 \$206,080,000 \$51,520,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Aqualistion Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition		\$3,200.00				\$179,200,000 \$26,880,000 \$206,080,000 \$51,520,000
11	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering		\$3,200.00				\$179,200,000 \$26,880,000 \$206,080,000 \$51,520,000 \$257,600,000
111	Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Aqualition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition		\$3,200.00				\$3,913,026 \$179,200,000 \$26,880,000 \$206,080,000 \$51,520,000 \$257,600,000 \$257,600,000

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cos
	S14 - Pleasanton (BART) Station (I-680/580/UPRR 1-2, Suburban - Aerial)						
- '	Site Clearing Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	
	Sile Demonition	TILOT	\$800,000.00	φ343,443.00	4.00	φ3,761,773	\$3,818,
2	Earthwork	_					\$3,010,
		MO	\$7.50	\$8.86		60	
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$0.00	-	\$0	
2	Device 0 Outside a such ded						
3	Paving & Surfacing- excluded	_					
		_					
		_					
4	Piped Utilities- excluded						
5	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,
6	Track work	_	ļ				
	Direct Fixation	M	\$800.23	\$945.72	10,000	\$9,457,155	
	Turnouts, No. 50 W. Conc. Ties	EA	\$365,000.00	\$431,358.68	4	\$1,725,435	
	Crossover, No. 50 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4	\$3,545,414	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$14,728
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
8	Traction Power	-					
	(Included in Overall Estimate)						
	(minded in ordinal Estimate)	-					
0	Train Control						
- 3	(Included in Overall Estimate)	-					
	(moduled in Overall Estimate)	-					
10	Station Platform	-					
10	Platforms:	_					
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Station Lighting Signage	SM platform	\$130.00 \$5,000.00	\$153.63 \$5,909.02	7,200 2	\$1,106,169 \$11,818	
	Station Lighting Signage Platform Furnishing	SM platform platform	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21	7,200 2 2	\$1,106,169 \$11,818 \$106,362	
	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	SM platform	\$130.00 \$5,000.00	\$153.63 \$5,909.02	7,200 2	\$1,106,169 \$11,818 \$106,362	
	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 2 2	\$1,106,169 \$11,818 \$106,362 \$189,089	
	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 2 2	\$1,106,169 \$11,818 \$106,362 \$189,089	
	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 2 2	\$1,106,169 \$11,818 \$106,362 \$189,089	
	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 2 2 8	\$1,106,169 \$11,818 \$106,362 \$189,089	
	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 2 2 8	\$1,106,169 \$11,818 \$106,362 \$189,089	\$20,760
	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 2 2 8	\$1,106,169 \$11,818 \$106,362 \$189,089	\$20,760
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 2 2 8	\$1,106,169 \$11,818 \$106,362 \$189,089	\$20,760
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 2 2 8	\$1,106,169 \$11,818 \$106,362 \$189,089	\$20,760
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM platform platform EA EA	\$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$20,760
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	
11	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970
11	Station Lighting Signage Pitafform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,445
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Perdestrian Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,445
111	Station Lighting Signage Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,445
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Perdestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,445 \$210,415
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Perdestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost. Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,445 \$210,415
111	Station Lighting Signage Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,448 \$210,418
111	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Perdestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,448 \$210,418
11	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,448 \$210,418
111	Station Lighting Signage Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Costs @ 10%	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,448 \$210,418
111	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Cost @ 10% Field Changed Condition	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,445 \$210,415
111	Station Lighting Signage Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Costs @ 10%	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$3,913 \$182,970 \$27,445 \$210,415
111	Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Cost @ 10% Field Changed Condition	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 2 2 8 1	\$1,106,169 \$11,818 \$106,362 \$189,089 \$0 \$10,900,000	\$20,760 \$3,913 \$182,970 \$27,445 \$210,415 \$62,603 \$263,019

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S15 - Pleasanton (I-680/Bernal) Station (UPRR 3-4, Suburban - At Grade)_						
1	Site Clearing	LIEGE	AT TOO 00	******		****	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	4.00 4.00	\$36,400 \$3,781,775	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	\$3,818,17
2	Earthwork	-					φ3,010,1 <i>1</i>
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	150,000.00	\$1,329,530	
			*****	7	,	*:,===,===	\$1,329,53
3	Paving & Surfacing- excluded						. , , .
							\$
4	Piped Utilities- excluded						
							,
5	Site Structural Work						
	At grade					\$0	
_	Toronto consider						
б	Track work	М	6420.00	ecos 10	10.000	¢E 001 760	
	Ballasted Track Incl. Ballast and subballast Turnouts, No. 50 W. Conc. Ties	EA EA	\$430.00 \$700,000.00	\$508.18 \$827,263.22	10,000	\$5,081,760 \$3,309,053	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$1,090,028	
	Heavy Duty Rubber Grade Crossing		ψου,ουσ.ου	\$00,000.20		,	
	, ,v		1			1	\$15,481,64
7	Station Electrical Work						, ., . ,.
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							,
8	Traction Power						
	(Included in Overall Estimate)						
							5
9	Train Control						
	(Included in Overall Estimate)						
10	Otation Platforms						\$
10	Station Platform Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	М	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded	_					
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting	SM SM	\$160.00 \$130.00	\$189.09 \$153.63	7,200 7,200	\$1,361,439 \$1,106,169	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage	SM SM platform	\$160.00 \$130.00 \$5,000.00	\$189.09 \$153.63 \$5,909.02	7,200 7,200 2	\$1,361,439 \$1,106,169 \$11,818	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing	SM SM platform platform	\$160.00 \$130.00 \$5,000.00 \$45,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21	7,200 7,200 2 2	\$1,361,439 \$1,106,169 \$11,818 \$106,362	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	SM SM platform	\$160.00 \$130.00 \$5,000.00	\$189.09 \$153.63 \$5,909.02	7,200 7,200 2	\$1,361,439 \$1,106,169 \$11,818	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM SM platform platform EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 7,200 2 2 8	\$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089	
	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing	SM SM platform platform EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 7,200 2 2	\$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089 \$7,942,000	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM SM platform platform EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 7,200 2 2 8	\$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089	
	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing	SM SM platform platform EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 7,200 2 2 8	\$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089 \$7,942,000	\$47,809.0
	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing	SM SM platform platform EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 7,200 2 2 8	\$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089 \$7,942,000	\$17,802,91
11	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing	SM SM platform platform EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 7,200 2 2 8	\$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089 \$7,942,000	\$17,802,9
11	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms	SM SM platform platform EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8	\$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$17,802,9
11	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing	SM SM platform platform EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	7,200 7,200 2 2 8	\$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089 \$7,942,000	\$17,802,9
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9
11	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestrian Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9(\$41,970,0(\$6,295,5(
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestrian Crossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9 \$41,970,0 \$6,295,5
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestrian Crossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9(\$41,970,0(\$6,295,5(
11	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9 \$41,970,0 \$6,295,5 \$48,265,5
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingendices (25% of Total Construction Cost)	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9 \$41,970,0 \$6,295,5 \$48,265,5
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Miopion for Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,970,0 \$41,970,0 \$6,295,5 \$48,265,5
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter-4 ea. Per Platform Pedestran Crossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9 \$41,970,0 \$6,295,5 \$48,265,5
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestrian Crossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9 \$41,970,0 \$6,295,5 \$48,265,5
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Mioploint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9 \$41,970,0 \$6,295,5 \$48,265,5
11	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Undercrossing Und	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$3,534,9 \$41,970,0 \$6,295,5 \$48,265,5 \$12,066,3
111	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Mioploint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	SM SM platform platform EA EA EA	\$160.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	7,200 7,200 2 2 8 1	\$1,361,439 \$1,106,136 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$17,802,9' \$3,534,9' \$41,970,0' \$6,295,5' \$48,265,5' \$12,066,3 \$60,331,8'

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S16 - Livermore 1 (I-580) Station (I-680/580/UPRR 3-4, Undeveloped - Aerial)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	-	\$0	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	-	\$0	
							\$0
	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
							\$0
4	Piped Utilities- excluded						
-	Olfo Otrostoral Wests						\$0
	Site Structural Work	LIFOT	640 750 000 00	640 704 000 40	4.00	640,000,000	
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	4.00	\$43,000,000	* 40 000 000
	To a bound						\$43,000,000
	Track work Direct Fivetion	М	\$800.23	\$945.72	10,000	\$9,457,155	
	Direct Fixation Turnouts, No. 50 W. Conc. Ties	EA	\$800.23 \$365,000.00	\$945.72 \$431,358.68	10,000	\$9,457,155 \$1,725,435	
	Turnouts, No. 50 W. Conc. Ties Crossover, No. 50 W. Conc. Ties	EA	\$365,000.00 \$750,000.00	\$431,358.68 \$886,353.45	4		
	Bumping Posts	EA	\$50,000.00	\$59,090.23	4	\$3,545,414	
	Heavy Duty Rubber Grade Crossing	EA	φου,υυυ.υυ	\$39,090.23		\$0	
	Treaty Sary Tables Ordering	1	†				\$14,728,003
7	Station Electrical Work	+	 				φ 1÷,1 20,003
- '	CCTV & Security System- excluded	 	 				
	Communication System-excluded	+	<u> </u>				
	Lighting- See Item 10	+	<u> </u>				
	-5·····9 ·-·· ·-	1					\$0
8	Traction Power	+					
	(Included in Overall Estimate)						
	(1					\$0
9	Train Control						***
	(Included in Overall Estimate)						
	1	1					\$0
10	Station Platform						
	Platforms:	1					
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	10,800	\$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$17,727	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	12	\$283,633	
	Pedestiran Crossing	<u> </u>					
	Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
		1	1				****
		1	ļ			ļ	\$26,046,008
4.7	Ctation Duilding 9 Access to Distforms	-	1				
11	Station Building & Access to Platforms	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM	\$540.00 \$3,200.00	\$638.17 \$3,781.77	5,539	\$3,534,848 \$378,177	
	Howeling (Endoded)	SIVI	Φ3,∠00.00	φ3,101.//	100	φ3/0,1//	\$3,913,026
	Sub-Total	1	 				\$3,913,026
	Mobilization & Indirect Field Cost	+	15%			-	\$13,153,500
		+	1370				\$13,153,500
	Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	+	-				φ100,843,50C
	Right of way Acquisition	 	 				
	Contingencies (25% of Total Construction Cost)	+	 				\$25,210,875
	Subtotal- Construction Cost (Not Escalated)	1	†				\$126,054,375
	Project Conceptual & Preliminary Engineering	+	 				ψ120,00 4 ,370
	Final Engineering Design Cost	+	† 				
	Construction Management & Inspection Costs @ 10%	1	 				
	Field Changed Condition	1					
	Owner Administration & Engineering	1					
		1	-				\$25,715,093
	Program Implementation Costs (25.5% of Lotal Cost & Procurement)						
	Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$151,769,468

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

em lo.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cos
	S17 - Livermore 2 (Downtown) Station (UPRR 5-6, Urban - At Grade)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	
							\$3,818,
	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	150,000.00	\$1,329,530	
							\$1,329,
3	Paving & Surfacing- excluded						
4	Piped Utilities- excluded						
	·						
5	Site Structural Work						
	At grade						
		+					
6	Track work	+					
	Ballasted Track Incl. Ballast and subballast	М	\$430.00	\$508.18	10,000	\$5,081,760	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22	4	\$3,309,053	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
_	Bumping Posts	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
_		EM	φου,υυυ.υυ	ათ,090.23		\$0	
_	Heavy Duty Rubber Grade Crossing	+					645 404
_		1					\$15,481
	Station Electrical Work	1					
	CCTV & Security System- excluded	1					
	Communication System-excluded						
	Lighting- See Item 10						
8	Traction Power						
	(Included in Overall Estimate)						
9	Train Control						
	(Included in Overall Estimate)						
	,						
10	Station Platform	1					
	Platforms:	1					
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps		\$175.00	\$206.82	7,200	\$1,489,074	
		SM					
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Slab Platform Warning Edge & Rubbing Edge						
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded	SM M	\$120.00 \$250.00	\$141.82 \$295.45	7,200 800	\$1,021,079 \$236,361	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel	SM M SM	\$120.00 \$250.00 \$340.00	\$141.82 \$295.45 \$401.81	7,200 800 7,200	\$1,021,079 \$236,361 \$2,893,058	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM M SM	\$120.00 \$250.00 \$340.00 \$160.00	\$141.82 \$295.45 \$401.81 \$189.09	7,200 800 7,200 7,200	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting	SM M SM SM SM	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63	7,200 800 7,200 7,200 7,200	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage	SM M SM SM SM platform	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02	7,200 800 7,200 7,200 7,200 7,200	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing	SM M SM SM SM platform	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21	7,200 800 7,200 7,200 7,200 2 2	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818 \$106,362	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	SM M SM SM SM platform	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02	7,200 800 7,200 7,200 7,200 7,200	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM M SM SM SM platform platform	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 800 7,200 7,200 7,200 2 2 2 8	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roor Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM M SM SM SM platform platform EA	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 800 7,200 7,200 7,200 2 2	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM M SM SM SM platform platform	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 800 7,200 7,200 7,200 2 2 2 8	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roor Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM M SM SM SM platform platform EA	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 800 7,200 7,200 7,200 2 2 2 8	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089	
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roor Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM M SM SM SM platform platform EA	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 800 7,200 7,200 7,200 2 2 2 8	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089	\$17,80
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shetter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing	SM M SM SM SM platform platform EA	\$120.00 \$250.00 \$340.00 \$160.00 \$130.00 \$5,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09	7,200 800 7,200 7,200 7,200 2 2 2 8	\$1,021,079 \$236,361 \$2,893,058 \$1,361,439 \$1,106,169 \$11,818 \$106,362 \$189,089	\$17,80
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing	SM M SM SM SM platform platform EA EA	\$120,00 \$250,00 \$340,00 \$160,00 \$130,00 \$5,000,00 \$45,000,00 \$20,000,00	\$141,82 \$295,45 \$401,81 \$189,09 \$153,63 \$5,090,02 \$53,181,21 \$23,636,09 \$7,942,000,00	7,200 800 7,200 7,200 7,200 2 2 2 8	\$1,021,079 \$238,361 \$2,893,058 \$1,381,439 \$1,106,169 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$17,80
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$17,803
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing	SM M SM SM SM platform platform EA EA	\$120,00 \$250,00 \$340,00 \$160,00 \$130,00 \$5,000,00 \$45,000,00 \$20,000,00	\$141,82 \$295,45 \$401,81 \$189,09 \$153,63 \$5,090,02 \$53,181,21 \$23,636,09 \$7,942,000,00	7,200 800 7,200 7,200 7,200 2 2 2 8	\$1,021,079 \$238,361 \$2,893,058 \$1,381,439 \$1,106,169 \$11,818 \$106,362 \$189,089 \$7,942,000 \$0	\$17,80
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$17,80
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91: \$42,35
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91: \$42,35(\$6,35:
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91: \$42,35
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91: \$42,35(\$6,35:
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy- Str. Steel Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35 \$48,70
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35 \$48,70
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation Uniformy Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35 \$48,70
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Rord Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost, Mot Escalated) Project Conceptual & Preliminary Engineering	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35 \$48,70
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost More Tasse (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35 \$48,70
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Frunishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35 \$48,70
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35 \$48,70
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestrian Crossing Undercrossing Undercros	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35 \$48,70 \$12,17 \$60,87
	Platform Slab Platform Warning Edge & Rubbing Edge Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting Signage Platform Funishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	SM M M SM SM SM platform platform EA EA EA	\$120.00 \$250.00 \$340.00 \$180.00 \$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$141.82 \$295.45 \$401.81 \$189.09 \$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942.000.00 \$10,900,000.00	7,200 800 7,200 7,200 7,200 2 2 2 3 8	\$1,021,079 \$236,361 \$2,893,098 \$1,306,169 \$11,818 \$106,362 \$199,069 \$7,942,000 \$0 \$3,534,848	\$3,91 \$42,35 \$6,35

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S18 - Livermore 2 (Downtown) Station (UPRR 5-6, Urban - Aerial)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	2.00	\$18,200	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	2.00	\$1,890,887	
							\$1,909,087
2	Earthwork	M3	67.50	\$8.86		\$0	
	Grading Site- Cut & Fill 1M Average	INI3	\$7.50	\$8.86		\$0	\$(
3	Paving & Surfacing- excluded						φι
	turning a curracing excellent	-					
							\$0
4	Piped Utilities- excluded						
							\$1
5	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,394
6	Track work		\$430.00	\$508.18	10,000	\$5,081,760	
	Direct Fixation Turnouts, No. 50 W. Conc. Ties	M EA	\$430.00 \$700,000.00	\$508.18 \$827,263.22	10,000	\$5,081,760	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing		\$55,555.00	\$00,000.20		φο	
	, , , , , , , , , , , , , , , , , , ,		1				\$15,481,640
7	Station Electrical Work						, . ,
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							\$0
8	Traction Power						
	(Included in Overall Estimate)	_					
0	Train Control						\$0
9	Train Control (Included in Overall Estimate)	-					
	(moduce in Overali Estimate)						\$0
10	Station Platform	-					***
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded	SM	6040.00	\$401.81	7,200	\$0	
	Canopy-Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$340.00 \$160.00	\$401.81	7,200	\$2,893,058 \$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2		
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing						
	Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
							\$20,760,978
	Station Building 9 Access to Distingue	_	-				
11	Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$3,534,646	
	····	OW	ψ3,200.00	ψο,τοι.//	100	\$575,177	\$3,913,026
	Sub-Total		 				\$181,810,000
	Mobilization & Indirect Field Cost		15%				\$27,271,500
	Subtotal- Construction Cost- Base (year 2006 dollars)	1	1				\$209,081,500
	Escalation to Midpoint of Construction- not included						
	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$52,270,375
	Subtotal- Construction Cost (Not Escalated)						\$261,351,87
	Project Conceptual & Preliminary Engineering						
	Final Engineering Design Cost	-	 				
	Construction Management & Inspection Costs @ 10%	-	 				
	Field Changed Condition Owner Administration & Engineering	+	-				
		_					\$53,315,78
	Program Implementation Costs (25.5% of Total Cost & Procurement)						
	Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$314,667,65

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item	DESCRIPTION	UNIT	UNIT COST (June	UNIT COST (November	QUANTITY	Estimated Cost	Category Total Cost
No.			2003\$)	2006\$)			
1	S19 - Livermore (Greenville Road/I-580) Station (I-680/580/UPRR 4-5, Undeveloped - Aerial) Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	_	\$0	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	-	\$0	
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , , ,			\$0
2	Earthwork						·
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
							\$0
4	Piped Utilities- excluded						
-	Site Structural Work	<u> </u>					\$0
5	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	4.00	\$50,817,598	
	Acidi Siluciule	TILOT	\$10,730,000.00	φ12,704,399.40	4.00	φ30,617,396	\$50,817,598
6	Track work						ψου,σ17,σσο
	Direct Fixation	М	\$800.23	\$945.72	10,000	\$9,457,155	
	Turnouts, No. 50 W. Conc. Ties	EA	\$365,000.00	\$431,358.68	4	\$1,725,435	
	Crossover, No. 50 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4		
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$14,728,003
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						\$0
							\$0
8	Traction Power (Included in Overall Estimate)						
	(Included III Overall Estimate)	+					\$0
٥	Train Control						φι
	(Included in Overall Estimate)						
	(modeled in Groun Edimate)						\$0
10	Station Platform						,
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	М	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded	014	****	0.01.01	40.000	A	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM SM	\$160.00 \$130.00	\$189.09 \$153.63	10,800 10,800	\$2,042,158 \$1,659,254	
	Station Lighting Signage	platform	\$5,000.00	\$5,909.02	10,600	\$1,059,254	
	Platform Furnishing	platform	\$45,000.00	\$5,909.02 \$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	12	\$283,633	
	Pedestiran Crossing	1	,	121,113.00		,,_	
	Overcrossing	EA		\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA		\$10,900,000.00		\$0	
	-						
							\$23,088,008
11	Station Building & Access to Platforms	£					
	Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	** ***
	Cub T-1-1	 					\$3,913,026
	Sub-Total Mobilization & Indirect Field Cost	1	15%				\$92,550,000
		1	1376				\$13,882,500 \$106,432,500
	Subtotal- Construction Cost- Base (year 2006 dollars)	1	-				\$100,432,50C
	Escalation to Midpoint of Construction, not included	 					
	Escalation to Midpoint of Construction- not included Right of way Acquisition		1	1			\$26,608,125
	Right of way Acquisition						
	Right of way Acquisition Contingencies (25% of Total Construction Cost)						\$133,040.625
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering						\$133,040,625
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost						\$133,040,625
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%						\$133,040,629
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						\$133,040,629
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering						
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						\$133,040,625 \$27,140,288 \$160,180,913

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S20 - Livermore (Greenville Road/UPRR) Station						
1	Site Clearing Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	
	ORD DUTINGTI	11201	\$000,000.00	ψο 10, 1 10.00	1.00	ψο,τοι,ττο	\$3,818,17
2	Earthwork						4-,,
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	150,000.00	\$1,329,530	
							\$1,329,53
3	Paving & Surfacing- excluded						
							\$
4	Piped Utilities- excluded						
							Ś
	Site Structural Work						3
	At grade					\$0	
	At grade					φυ	
6	Track work						•
	Ballasted Track Incl. Ballast and subballast	M	\$430.00	\$508.18	10,000	\$5,081,760	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22	4	\$3,309,053	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$15,481,64
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
0	Tdl D						
٥	Traction Power (Included in Overall Estimate)						
	(modece in Overall Estimate)						
9	Train Control						•
	(Included in Overall Estimate)						
	,						\$
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing						
	Overcrossing	EA		\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA		\$10,900,000.00		\$0	
							\$17,802,97
11	Station Building & Access to Platforms	014	0540.00	2000 17	F F^^	60 504 0 10	
	Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM SM	\$540.00 \$3,200.00	\$638.17 \$1.10	5,539 100	\$3,534,848 \$118	
	Howeling (Enclosed)	SIVI	\$3,200.00	\$1.18	100	\$118	\$3,534,96
	Sub-Total	 					\$3,534,9i \$41,970,0i
	Mobilization & Indirect Field Cost	1	15%				\$6,295,5
	Subtotal- Construction Cost- Base (year 2006 dollars)	 	.370				\$48,265,5
	Escalation to Midpoint of Construction- not included	t					Ų-10,200,01
	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$12,066,3
	Subtotal- Construction Cost (Not Escalated)						\$60,331,8
	Project Conceptual & Preliminary Engineering						
	Final Engineering Design Cost						
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition	ļ					
	Owner Administration & Engineering	1					
	Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$12,307,70 \$72,639,5 7

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S21 - Tracy 1 (Downtown) Station (UPRR 10-11, Urban - Aerial)						
	Site Clearing	UEOT		******		210.000	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	2.00	\$18,200 \$1,890,887	
	Oile Demoillain	TILOT	\$000,000.00	ψ343,443.00	2.00	ψ1,030,007	\$1,909,08
2	Earthwork						¥.,,,
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$
3	Paving & Surfacing- excluded						
							S
- 1	Piped Utilities- excluded						•
	riped Offitties- excluded						
							\$
5	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,39
6	Track work						
	Direct Fixation Turnouts, No. 32.7 W. Conc. Ties	M EA	\$430.00 \$700,000.00	\$508.18 \$827,263.22	4,860 4	\$2,469,735 \$3,309,053	
	Turnouts, No. 32.7 W. Conc. Ties Crossover, No. 32.7 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4		
	Bumping Posts	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Heavy Duty Rubber Grade Crossing		ψ50,000.00	\$55,050.25		ΨΟ	
	, ,v						\$12,869,61
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							•
8	Traction Power						
	(Included in Overall Estimate)	<u> </u>					
0	Train Control						•
J	(Included in Overall Estimate)						
	(1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.						\$
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	\$170.00	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge Platform Finish Work- excluded	М	\$250.00	\$295.45	800	\$236,361	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing						
	Overcrossing Undercrossing	EA EA		\$7,942,000.00 \$10,900,000.00	1	\$0 \$10,900,000	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
		1	<u> </u>				\$20,760,9
		1					Ψ20,100,91
11	Station Building & Access to Platforms						
	Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
							\$3,913,02
	Sub-Total	1	45.				\$179,200,0
	Mobilization & Indirect Field Cost	ļ	15%			ļ	\$26,880,0
	Subtotal- Construction Cost- Base (year 2006 dollars)	 					\$206,080,00
	Escalation to Midpoint of Construction- not included Right of way Acquisition	1					
	Contingencies (25% of Total Construction Cost)	1					\$51,520,0
	Subtotal- Construction Cost (Not Escalated)	 					\$257,600,0
	Project Conceptual & Preliminary Engineering	1	1				,20,,000,0
	Final Engineering Design Cost		İ			İ	
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition						
	r leid Changed Condition						
	Owner Administration & Engineering						
	Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$52,550,44 \$310,150,44

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S22 - Tracy 2 (Existing ACE) Station (SUPRR 2-3, Suburban - Aerial)						
1	Site Clearing	UEOT		******		212.000	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	2.00	\$18,200 \$1,890,887	
	ORE DEFINITION	TILOT	\$000,000.00	ψ343,443.00	2.00	ψ1,030,007	\$1,909,08
2	Earthwork						**,****
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$1
3	Paving & Surfacing- excluded						
							\$i
							\$
4	Piped Utilities- excluded	1					
							\$
5	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,39
6	Track work						
	Direct Fixation	M	\$430.00	\$508.18	10,000	\$5,081,760	
	Turnouts, No. 50 W. Conc. Ties Crossover, No. 50 w. Conc. Ties	EA	\$700,000.00 \$1,500,000.00	\$827,263.22 \$1,772,706.90	4		
	Crossover, No. 50 w. Conc. Ties Bumping Posts	EA EA	\$1,500,000.00 \$50,000.00	\$1,772,706.90 \$59,090.23	4	\$7,090,828 \$0	
	Heavy Duty Rubber Grade Crossing	EA	\$50,000.00	\$59,090.23		\$0	
	Trooty Say Nassor Grade Grossing	†	 			 	\$15,481,64
7	Station Electrical Work						\$10,101,0 1
	CCTV & Security System- excluded	1	1				
	Communication System-excluded						
	Lighting- See Item 10						
							\$
8	Traction Power						
	(Included in Overall Estimate)						
							\$
9	Train Control (Included in Overall Estimate)	1					
	(Included in Overall Estimate)	1					\$
10	Station Platform						Ψ
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$340.00 \$160.00	\$401.81	7,200	\$2,893,058	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2		
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing						
	Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
						 	\$20.760.0°
		1	-			-	\$20,760,97
11	Station Building & Access to Platforms	1					
- ''	Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
							\$3,913,02
	Sub-Total						\$181,810,00
	Mobilization & Indirect Field Cost		15%				\$27,271,50
	Subtotal- Construction Cost- Base (year 2006 dollars)						\$209,081,5
	Escalation to Midpoint of Construction- not included		1	ļ		1	\$52,270,3
	Right of way Acquisition						
	Right of way Acquisition Contingencies (25% of Total Construction Cost)						
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)						\$261,351,8
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering						\$261,351,8
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost						\$261,351,8
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						\$261,351,8
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering						\$261,351,87
	Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						\$261,361,8 \$53,315,7: \$314,667,6:

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

SS Gibro (Caltrain) Station (Packere 2.3), Erhan - Acriel)								
Bac Clearing		DESCRIPTION	UNIT			QUANTITY	Estimated Cost	Category Total Cost
Set Clearing		S23 - Gilroy (Caltrain) Station (Pacheco 2-3, Urban - Aerial)						
Secretaries Secretaries	1							
Servine County 100		Site Clearing	HECT	\$7,700.00	\$9,099.90	-	\$0	
Section Sect		Site Demolition	HECT	\$800,000.00	\$945,443.68	-	\$0	
Section Sect								\$0
Paving & Surfacing- excluded								
A Pipped Utilities - excluded		Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
A Pipped Utilities - excluded								\$0
Sites Structural Work	3	Paving & Surfacing- excluded						
Sites Structural Work								
Sites Structural Work								\$0
Sites Structural Work	4	Piped Utilities- excluded						
Acres Section Sectio								
Ania Shockare								\$0
Create work	5	Site Structural Work						
Practic work		Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	4.00	\$50,817,598	
Description M \$800.23 \$944.72 \$7.00 \$3,505,800								\$50,817,598
Description M \$800.23 \$944.72 \$7.00 \$3,505,800	6	Track work						
Tumorits No. 26.5 W. Conc. Ties			M	\$800.23	\$945.72	3,760	\$3,555,890	
Onscover, No. 26 Str. Conc.* Ties								
EA \$50,000.00 \$50,000.25 \$0 \$0 \$4,000.00 \$50,000.25 \$0 \$0 \$4,000.00 \$50,000.25 \$0 \$0 \$50,000.25 \$0 \$0 \$50,000.25 \$0 \$0 \$50,000.25 \$0 \$0 \$50,000.25 \$0 \$0 \$50,000.25 \$0 \$0 \$50,000.25 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$								
Station Electrical Work								
7 Station Electrical Work COTV & Scourtly System-excluded Communication System excluded Lighting-See Ren 10 Lighting-See Ren 1				ψου,ουσ.ου	\$50,503.20		ψυ	
7 Station Electrical Work		,,	†					\$8,826,739
CCTVA Security System-excluded	7	Station Electrical Work	<u> </u>					ψ0,020,733
Communication System excluded			 	1				
Exprings See Item 10								
8 Traction Power [Included in Overall Estimate] 9 Train Control (Included in Overall Estimate) 10 Station Platform Platform Production Find Description SM 170 \$200.91 10.800 \$2.189.790 Find Control NM 170 \$200.91 10.800 \$2.189.790 Find Control NM 170 \$200.91 10.800 \$2.189.790 Find Control NM 170 \$200.91 10.800 \$2.189.790 Find Platform Sish Platform Warning Edge & Rubbing Edge NM \$170.00 \$300.82 10.1000 \$2.235.811 Platform Warning Edge & Rubbing Edge Platform Prinsh Work excluded Cancypy SN Stell Cancypy SN Stell Cancypy SN Stell SM \$140.00 \$340.181 10,800 \$433.958 Cancypy Good Metal Deck Roofing, Gutter, Etc. SM \$100.00 \$193.00 10,800 \$2.042.186 SStation Lighting SM \$100.00 \$193.00 11,800 \$2.042.186 SStation Lighting SM \$100.00 \$193.00 11,800 \$2.042.186 SStation Lighting Platform Furnish Work excluded SS \$100.00 \$193.00 11,800 \$193.								
Included in Overall Estimate)		Lighting- See term to						\$0
(Included in Overall Estimate)								ψu
9 Train Control (Included in Overall Estimate) 10 Station Platform Platforms: Foundation- Pier Cassenns Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation- Pier Foundation Foundation Foundation Foundation Foundation Foundation- Pier Foundation Foundation- Pier Foundation	8							
(Included in Overall Estimate)		(Included in Overall Estimate)						
(Included in Overall Estimate)								\$0
10 Station Platform	9							
Platforms Platforms Platforms Platforms Platforms Platforms Platforms Platforms Platform P		(Included in Overall Estimate)						
Platforms Platforms Platforms Platforms Platforms Platforms Platforms Platforms Platform P								\$0
Foundation-Pier Caissons SM 170 \$20.91 10.800 \$2,199,795	10							
Pier Caps SM \$175.00 \$208.82 10.800 \$2.233.611 Platform Sibh SM \$175.00 \$208.82 10.800 \$2.233.611 Platform Warning Edge & Rubbing Edge M \$250.00 \$295.48 2.400 \$709.083 Platform Finish Work- excluded SM \$250.00 \$295.48 2.400 \$709.083 Platform Finish Work- excluded SM \$340.00 \$401.81 10.800 \$4.339.586 Canopy- Roof Metal Deck, Roofing, Gutter, Etc. SM \$160.00 \$189.09 10.800 \$2.204.156 Station Lighting SM \$130.00 \$183.63 10.800 \$2.204.156 Station Lighting SM \$130.00 \$183.63 10.800 \$1.696.224 Signage platform \$5,000.00 \$5								
Platform Slab								
Platform Warning Edge & Rubbing Edge		Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
Platform Finish Work- excluded SM								
Platform Finish Work- excluded SM \$340.00 \$401.81 10,800 \$4,339,586 Canopy Flord Metal Deck, Roofing, Gutter, Etc. SM \$160.00 \$188.09 10,800 \$2,042,158 Station Lighting SM \$150.00 \$15,563 10,800 \$1,680,254 Station Lighting SM \$150.00 \$5,009.02 3 \$1,680,254 Station Lighting SM \$150.00 \$5,009.02 3 \$1,680,254 SM \$150.00 \$5,009.02 3 \$1,680,254 SM \$150.00 \$1,680,254 SM \$150.00 \$1,680,254 SM \$150.00 \$1,680,254 SM \$150.00 \$1,680,254 SM \$1,680,000 \$1,680,000 \$1,680,000 SM \$1,680,000 SM \$1,680,000 SM \$1,680,000 \$1,680,000 SM SM \$1,680,000		Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$709,083	
Canopy Roof Metal Deck, Roofing, Gutter, Etc. SM \$160.00 \$180.09 10.800 \$2.042,158		Platform Finish Work- excluded						
Station Lighting		Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
Signage		Canopy Roof Metal Deck, Roofing, Gutter, Etc.		\$160.00				
Signage		Station Lighting		\$130.00	\$153.63	10,800	\$1,659,254	
Platform Furnishing			platform			3	\$17,727	
Windscreen Shelter- 4 ea. Per Platform				\$45,000.00	\$53,181.21	3		
Pedestiran Crossing								
Overcrossing								
Undercrossing			EA		\$7,942,000.00	1	\$7,942,000	
Station Building & Access to Platforms		Undercrossing	EA					
Station Building & Access to Platforms					, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		***	
Station Building & Access to Platforms								\$23,088,008
Passenger Terminal (185x120' Foot Print)				1				Ţ=1,130,000
Passenger Terminal (185x120' Foot Print)	11	Station Building & Access to Platforms	 	 				
Ticketing (Enclosed)			SM	\$540.00	\$638.17	4 000	\$2 552 608	
Sub-Total S2,9:								
Sub-Total \$85,6 Mobilization & Indirect Field Cost 15% 15% \$12,8 Subtotal- Construction Cost- Base (year 2006 dollars) \$98,5 Escalation to Midpoint of Construction- not included Right of way Acquisition (Contingencies (25% of Total Construction Cost) \$24,6 Subtotal- Construction Cost (Not Escalated) \$123,1 Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) \$25,1		Tomoring (Endocod)	OIVI	ψ5,200.00	ψ0,701.77	100	ψ575,177	\$2,930,875
Mobilization & Indirect Field Cost \$15% \$12,84 Subtotal- Construction Cost- Base (year 2006 dollars) \$98,51 Escalation to Midpoint of Construction- not included \$150 Contingencies (25% of Total Construction Cost) \$24,61 Subtotal- Construction Cost (Not Escalated) \$133,11 Project Conceptual & Preliminary Engineering Final Engineering Design Cost \$100 Construction Cost \$100 Construction Cost \$100 Construction Cost \$100 Construction Cost \$100 Cost \$10		Cub Total						
Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Milopioni of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) Program Implementation Costs (25.5% of Total Cost & Procurement)				1F0/				\$85,660,000
Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) S25,1*				13%				\$12,849,000
Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering Program Implementation & Engineering S25,1*								\$98,509,000
Contingencies (25% of Total Construction Cost) \$24,6i Subtotal- Construction Cost (Not Escalated) \$123,1: Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) \$25,1'								
Subtotal- Construction Cost (Not Escalated) \$123,1' Project Conceptual & Preliminary Engineering \$ Final Engineering Design Cost \$ Construction Management & Inspection Costs @ 10% \$ Field Changed Condition \$ Owner Administration & Engineering \$ Program Implementation Costs (25.5% of Total Cost & Procurement) \$25,1'								
Project Conceptual & Preliminary Engineering								\$24,627,250
Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) \$25,1'								\$123,136,250
Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) \$25,1°								
Field Changed Condition Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) \$25,1"		Final Engineering Design Cost						
Owner Administration & Engineering Program Implementation Costs (25.5% of Total Cost & Procurement) \$25,1'								
Program Implementation Costs (25.5% of Total Cost & Procurement) \$25,1		Field Changed Condition						
		Program Implementation Costs (25.5% of Total Cost & Procurement)						\$25,119,795
		Total Estimated Project Cost						\$148,256,045

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

ltem No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S24 - Morgan Hill (Caltrain) Station (Pacheco 1-2, Suburban - Aerial)						
1	Site Clearing	UEOT	AT TOO OO	*****		****	
	Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	*****
							\$3,818,17
2	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							;
3	Paving & Surfacing- excluded						
4	Piped Utilities- excluded						
5	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	9.90	\$125,773,555	
							\$125,773,5
6	Track work						
	Direct Fixation	М	\$800.23	\$945.72	4,860	\$4,596,177	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$365,000.00	\$431,358.68	4	\$1,725,435	
	Crossover, No. 32.7 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4	\$3,545,414	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing		ļ				
							\$9,867,0
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
8	Traction Power						
	(Included in Overall Estimate)						
9	Train Control						
	(Included in Overall Estimate)						
							,
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing		1				
	Overcrossing	EA		\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA		\$10,900,000.00		\$0	
							·
							\$17,802,9
11	Station Building & Access to Platforms						
	Passenger Terminal (300'x200' Foot Print)	SM	\$540.00	\$638.17	11,000	\$7,019,919	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
							\$7,398,0
							\$164,660,0
	Sub-Total						\$24,699,0
	Sub-Total Mobilization & Indirect Field Cost		15%				
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)		15%				\$189,359,0
	Mobilization & Indirect Field Cost		15%				\$189,359,0
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)		15%				\$189,359,0
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)		15%				\$47,339,7
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition		15%				
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)		15%				\$47,339,
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)		15%				\$47,339,
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering		15%				\$47,339,
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%		15%				\$47,339,
	Mobilization & Indirect Field Cost Subtotal- Construction Cost. Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition		15%				\$47,339,
	Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%		15%				\$47,339,

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S25 - Modesto Downtown Station (UPRR N/S 4-5A/B, Urban - At Grade)						
1	Site Clearing	UEOT	AT TOO 00	******	100	****	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	4.00 4.00	\$36,400 \$3,781,775	
	Site Demonition	TILOT	\$600,000.00	φ545,445.00	4.00	φ3,761,773	\$3,818,17
2	Earthwork						ψ0,010,17
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	38,000.00	\$336,814	
							\$336,81
3	Paving & Surfacing- excluded						
							\$
4	Piped Utilities- excluded						
			-				\$
5	Site Structural Work	+					Ψ
	At Grade					\$0	
	· · · · · · · · · · · · · · · · · · ·						\$
6	Track work						
	Ballasted Track Incl. Ballast and subballast	M	\$430.00	\$508.18	3,760	\$1,910,742	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22	4	\$3,309,053	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$12,310,62
7	Station Electrical Work						
	CCTV & Security System- excluded	1					
	Communication System-excluded Lighting- See Item 10						
	Eighting- Occ from 10						
8	Traction Power	+					
	(Included in Overall Estimate)						
	1						\$
9	Train Control						
	(Included in Overall Estimate)						
							\$
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps Platform Olah	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab Platform Warning Edge & Rubbing Edge	SM M	\$120.00 \$250.00	\$141.82 \$295.45	10,800 2,400	\$1,531,619 \$709,083	
	Platform Finish Work- excluded	IVI	\$250.00	\$295.45	2,400	\$709,063	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	10,800	\$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$17,727	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	12	\$283,633	
	Pedestiran Crossing			67.040.000.00		67.040.000	
	Overcrossing Undercrossing	EA EA	 	\$7,942,000.00 \$10,900,000.00	1	\$7,942,000 \$0	
	Ordercrossing	EA		\$10,900,000.00		\$0	
		1	 				\$23,088,0
		1	 				Ψ20,000,0
11	Station Building & Access to Platforms	1	1				
	Passener Terminal (180'x65' Foot Print)	SM	\$540.00	\$638.17	2,100	\$1,340,166	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
							\$1,718,3
	Sub-Total						\$41,270,0
	Mobilization & Indirect Field Cost		15%				\$6,190,5
	Subtotal- Construction Cost- Base (year 2006 dollars)						\$47,460,5
	Escalation to Midpoint of Construction- not included	1	 				
		1	-				\$11,865,12
	Right of way Acquisition						\$11,865,1. \$59,325,6
	Contingencies (25% of Total Construction Cost)	+				I	φυσ,3 2 5,0
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)						
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering						
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost						
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering						
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						\$12,102,42 \$ 71,428, 04

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

ltem No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cos
	S26 - Briggsmore (Amtrak) Station (BNSF N/S 4-5, Suburban - At Grade)						
1	Site Clearing	HECT	67 700 00	\$9,099.90	4.00	600 400	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	4.00	\$36,400 \$3,781,775	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	\$3,818,1
2	Foothered						\$3,818,1
	Earthwork	140	67.50	00.00	20,000,00	6000.044	
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	38,000.00	\$336,814	****
							\$336,8
3	Paving & Surfacing- excluded						
4	Piped Utilities- excluded						
	Site Structural Work						
	At Grade					\$0	
6	Track work						
	Ballasted Track Incl. Ballast and subballast	М	\$430.00	\$508.18	3,760	\$1,910,742	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22	4	\$3,309,053	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$12,310,
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
8	Traction Power	1					
	(Included in Overall Estimate)						
	(1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	+					
٥	Train Control	+					
	(Included in Overall Estimate)						
	(minuted in Overair Estimate)						
10	Station Platform	+					
10	Platforms:	+					
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$200.91	10,800	\$2,169,793	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	М	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded			212121	40.000		
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	10,800	\$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$17,727	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	12	\$283,633	
	Pedestiran Crossing		ļ				
	Overcrossing	EA	ļ	\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA	ļ	\$10,900,000.00		\$0	
		1	ļ				
							\$23,088
11	Station Building & Access to Platforms						
	Passener Terminal (180'x65' Foot Print)	SM	\$540.00	\$638.17	2,100	\$1,340,166	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
							\$1,718
	Sub-Total						\$41,270
	Mobilization & Indirect Field Cost		15%				\$6,190
	Subtotal- Construction Cost- Base (year 2006 dollars)						\$47,460
	Escalation to Midpoint of Construction- not included						
	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$11,865
	Subtotal- Construction Cost (Not Escalated)		İ				\$59,325
	Project Conceptual & Preliminary Engineering						,
		+					
	Final Engineering Design Cost						
	Final Engineering Design Cost	1					
	Final Engineering Design Cost Construction Management & Inspection Costs @ 10%						
	Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						
	Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering						\$12 102
	Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						\$12,102 \$71,42 8

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S27 - Merced Downtown Station (UPRR N/S 7-8, BNSF N/S 7-8, Urban - At Grade)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	
							\$3,818,174
- 2	Earthwork	M3	67.50	60.00	20,000,00	6000.044	
	Grading Site- Cut & Fill 1M Average	MI3	\$7.50	\$8.86	38,000.00	\$336,814	\$336,814
3	Paving & Surfacing- excluded						\$330,014
	a ving a carracing-excluded						
							\$0
4	Piped Utilities- excluded						
							\$0
5	Site Structural Work						
	At Grade					\$0	
							\$0
6	Track work						
	Ballasted Track Incl. Ballast and subballast	M	\$430.00	\$508.18	3,760	\$1,910,742	
	Turnouts, No. 50 W. Conc. Ties	EA FA	\$700,000.00 \$1,500,000.00	\$827,263.22 \$1,772,706.90	4	\$3,309,053 \$7,090,828	
	Crossover, No. 50 w. Conc. Ties Bumping Posts	EA	\$1,500,000.00 \$50,000.00	\$1,772,706.90	4	\$7,090,828	
	Heavy Duty Rubber Grade Crossing	LA	φου,υυυ.υυ	φυσ,υ9U.23		\$0	
	yy	-	1				\$12,310,622
7	Station Electrical Work	-	1				\$12,010,022
	CCTV & Security System- excluded		<u> </u>				
	Communication System-excluded						
	Lighting- See Item 10						
							\$0
8	Traction Power						
	(Included in Overall Estimate)						
							\$0
9	Train Control						
	(Included in Overall Estimate)						
40							\$0
10	Station Platform						
	Platforms: Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.					00 0 10 150	
		SM	\$160.00	\$189.09	10,800	\$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	SM platform	\$130.00 \$5,000.00	\$153.63 \$5,909.02	10,800 3	\$1,659,254 \$17,727	
	Signage Platform Furnishing	SM platform platform	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21	10,800 3 3	\$1,659,254 \$17,727 \$159,544	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	SM platform	\$130.00 \$5,000.00	\$153.63 \$5,909.02	10,800 3	\$1,659,254 \$17,727	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633	
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000	\$23.088.006
	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000	\$23,088,008
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000	\$23,088,008
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180%65 Foot Print)	SM platform platform EA EA EA SM	\$130.00 \$5,000.00 \$45,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000	\$23,088,008
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms	SM platform platform EA	\$130.00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000	\$23,088,008
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180%65 Foot Print)	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000 \$6,190,500
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000 \$6,190,500
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Fool Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000 \$6,190,500
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180%65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000 \$6,190,500 \$47,460,500
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000 \$6,190,500 \$47,460,500
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Mippoint of Construction not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000 \$6,190,500 \$47,460,500
111	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180%65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,34 \$41,720,000 \$6,190,500 \$47,460,500
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost - Base (year 2006 dollars) Escalation to Midpoint of Construction-not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,34 \$41,720,000 \$6,190,500 \$47,460,500
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestrian Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction - not included Right of way Acquisition Contingencies (28% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs (10%	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,34 \$41,720,000 \$6,190,500 \$47,460,500
11	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (28% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000 \$6,190,500 \$47,460,500
111	Signage Platform Furnishing Windscreen Shelter- 4 ea. Per Platform Pedestrian Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction - not included Right of way Acquisition Contingencies (28% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs (10%	SM platform platform EA EA EA SM	\$130,00 \$5,000.00 \$45,000.00 \$20,000.00 \$20,000.00 \$3,200.00	\$153.63 \$5,909.02 \$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	10,800 3 3 12 1	\$1,659,254 \$17,727 \$159,544 \$283,633 \$7,942,000 \$0	\$1,718,344 \$41,270,000

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S28 - Castle Air Force Base Station (BNSF N/S 6-7, BNSF Castle 1-2, Suburban - At-Grade)						
	Site Clearing						
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	4.00	\$36,400 \$3,781,775	
-	Site Demoittion	HEUT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	\$3,818,174
2	Earthwork						\$3,010,174
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	38,000.00	\$336,814	
					-		\$336,814
3	Paving & Surfacing- excluded						
	B1 110000						\$0
- 4	Piped Utilities- excluded						
							\$0
5	Site Structural Work						***
	At Grade					\$0	
							\$0
6	Track work						
	Ballasted Track Incl. Ballast and subballast	M	\$430.00	\$508.18	3,760	\$1,910,742	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22	4	\$3,309,053	
<u> </u>	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
-	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
-	Heavy Duty Rubber Grade Crossing	-					\$12,310,622
7	Station Electrical Work						\$12,310,622
	CCTV & Security System- excluded						
	Communication System-excluded	1					
	Lighting- See Item 10						
							\$0
8	Traction Power						
	(Included in Overall Estimate)						
							\$0
9	Train Control						
	(Included in Overall Estimate)						
10	Otation District						\$0
10	Station Platform Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	10,800	\$2,042,158	
	Station Lighting	SM platform	\$130.00 \$5,000.00	\$153.63 \$5,909.02	10,800	\$1,659,254 \$17,727	
	Signage Platform Furnishing	platform	\$45,000.00	\$5,909.02 \$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$45,000.00	\$53,181.21	12	\$159,544	
	Pedestiran Crossing		\$20,000.00	\$25,000.00	12	\$200,000	
	Overcrossing	EA		\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA		\$10,900,000.00		\$0	
	-						•
							\$23,088,008
L	Otation Publisher O. Access to Platforms						
11	Station Building & Access to Platforms Passener Terminal (180'x65' Foot Print)	SM	\$540.00	\$638.17	2,100	¢1 240 400	
—	Passener Terminal (180'x65' Foot Print) Ticketing (Enclosed)	SM	\$540.00 \$3,200.00	\$638.17 \$3,781.77	2,100	\$1,340,166 \$378,177	
-	rioneling (Endlosed)	JIVI	φ3,200.00	φυ,101.77	100	φ510,177	\$1,718,344
	Sub-Total	1					\$41,270,000
	Mobilization & Indirect Field Cost		15%				\$6,190,500
	Subtotal- Construction Cost- Base (year 2006 dollars)						\$47,460,500
	Escalation to Midpoint of Construction- not included						
	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$11,865,125
	Subtotal- Construction Cost (Not Escalated)						\$59,325,625
\vdash	Project Conceptual & Preliminary Engineering						
	Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	 					
\vdash	Construction Management & Inspection Costs @ 10% Field Changed Condition						
—	Owner Administration & Engineering	1					
	Office Administration of Engineering	 	l				\$12,102,428
	Program Implementation Costs (25.5% of Lotal Cost & Procurement)						
	Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$71,428,053

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
- 1	S29 - Union City (Shinn) Station - (Niles/I-880 4-5, Urban - Aerial)						
- '	Site Clearing Site Clearing	HECT	\$7,700.00	\$9,099.90	2.00	\$18,200	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	2.00	\$1,890,887	
			, ,	, , , , , , , , , , , , , , , , , , , ,		. , , , ,	\$1,909,08
2	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$
3	Paving & Surfacing- excluded						
							\$
4	Piped Utilities- excluded						φ
	T IPOU GUILLOG GAGUAGU	+					
							\$
5	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,39
	Track work						
	Direct Fixation	M	\$430.00	\$508.18		\$0	
	Turnouts, No. 32.7 W. Conc. Ties	EA EA	\$700,000.00	\$827,263.22 \$1,772,706.90	4	\$0	
	Crossover, No. 32.7 w. Conc. Ties Bumping Posts	EA EA	\$1,500,000.00 \$50,000.00	\$1,772,706.90 \$59,090.23	4	\$7,090,828 \$0	
	Heavy Duty Rubber Grade Crossing	EA	φου,υυυ.υυ	 და და და და და და და და და და და და და		\$0	
	Trooty Day (1990) Grado Grossing						\$7,090,82
7	Station Electrical Work	1					Ţ.,000,0 <u>2</u>
-	CCTV & Security System- excluded	1	1				
	Communication System-excluded						
	Lighting- See Item 10						
							\$
8	Traction Power						
	(Included in Overall Estimate)	_					
		_					\$
9	Train Control (Included in Overall Estimate)						
	(included in Overall Estimate)	_					\$(
10	Station Platform						φι
	Platforms:						
	Foundation- Pier Caissons	SM	\$170.00	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded		2010.00	0404.04	7.000	******	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM SM	\$340.00 \$160.00	\$401.81 \$189.09	7,200 7,200	\$2,893,058 \$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing						
	Overcrossing	EA		\$7,942,000.00		\$0	
					1	\$10,900,000	
	Undercrossing	EA		\$10,900,000.00			
		EA		\$10,900,000.00			£00 700 0=
		EA		\$10,900,000.00			\$20,760,97
11	Undercrossing	EA		\$10,900,000.00			\$20,760,97
11	Undercrossing Station Building & Access to Platforms	EA SM	\$540.00	\$10,900,000.00 \$638.17	5.539	\$3.534.848	\$20,760,97
11	Undercrossing		\$540.00 \$3,200.00		5,539 100	\$3,534,848 \$378,177	\$20,760,97
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM		\$638.17			\$20,760,97 \$3,913,02
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM		\$638.17			\$3,913,02
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00 \$199,433,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00 \$199,433,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal Construction Cost (Not Escalated)	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00 \$199,433,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Conservation Cost (Not Escalated) Project Conceptual & Preliminary Engineering	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00 \$199,433,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Besign Cost	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00 \$199,433,00
111	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingence (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00 \$199,433,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Besign Cost	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00 \$199,433,00
11	Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	SM	\$3,200.00	\$638.17			\$3,913,02 \$173,420,00 \$26,013,00

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S30 - Newark Station (Caltrain 2-3, Suburban - Aerial)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	2.00	\$18,200	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	2.00	\$1,890,887	44 000 00
2	Familiana						\$1,909,087
	Earthwork Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86		\$0	
	Grading Site-Cut & Fill Tivi Average	IVIO	\$1.50	φ0.00		φυ	\$(
3	Paving & Surfacing- excluded						*
	Turning a barrawing brondaba						
							\$0
4	Piped Utilities- excluded						
							\$(
	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,394
	Track work						
	Direct Fixation	M	\$430.00	\$508.18		\$0	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$700,000.00	\$827,263.22		\$0	
	Crossover, No. 32.7 w. Conc. Ties Bumping Posts	EA EA	\$1,500,000.00 \$50,000.00	\$1,772,706.90 \$59,090.23	4	\$7,090,828 \$0	
	Heavy Duty Rubber Grade Crossing	EA	φου,υυυ.υυ	დემ,090.23		\$0	
	Treaty Busy Trabbot Oradic Orosoning		<u> </u>				\$7,090,828
7	Station Electrical Work						ψ1,030,020
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							\$0
	Traction Power						
	(Included in Overall Estimate)						
							\$0
9	Train Control						
	(Included in Overall Estimate)						
							\$0
10	Station Platform						
	Platforms:	CNA	470	\$200.91	7 000	\$1,446,529	
	Foundation- Pier Caissons Pier Caps	SM SM	170 \$175.00	\$200.91	7,200 7,200	\$1,446,529	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded	- "	\$200.00	\$200.10		ψ200,001	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing						
	Overcrossing	EA		\$7,942,000.00		\$0	
					1	\$10,900,000	
	Undercrossing	EA		\$10,900,000.00			
	Undercrossing	EA		\$10,900,000.00			£00 700 0T0
	Undercrossing	EA		\$10,900,000.00			\$20,760,978
14		EA		\$10,900,000.00			\$20,760,978
11	Station Building & Access to Platforms		\$540.00		5 530	\$3 534 840	\$20,760,978
	Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM	\$540.00 \$3.200.00	\$638.17	5,539 100	\$3,534,848 \$378,177	\$20,760,978
	Station Building & Access to Platforms		\$540.00 \$3,200.00		5,539 100	\$3,534,848 \$378,177	
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM		\$638.17			\$3,913,026
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total	SM	\$3,200.00	\$638.17			\$3,913,026 \$173,420,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	SM		\$638.17			\$3,913,026 \$173,420,000 \$26,013,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	SM	\$3,200.00	\$638.17			\$3,913,026 \$173,420,000 \$26,013,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	SM	\$3,200.00	\$638.17			\$3,913,026 \$173,420,000 \$26,013,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	SM	\$3,200.00	\$638.17			\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	SM	\$3,200.00	\$638.17			\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2005 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	SM	\$3,200.00	\$638.17			\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost	SM	\$3,200.00	\$638.17			\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	SM	\$3,200.00	\$638.17			\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not Included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	SM	\$3,200.00	\$638.17			\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering	SM	\$3,200.00	\$638.17			\$3,913,026 \$173,420,001 \$26,013,001 \$199,433,000 \$49,858,255 \$249,291,256
	Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not Included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	SM	\$3,200.00	\$638.17			

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S31 - Pleasanton (BART) Station (I-680/580/UPRR 1-2, Suburban - Aerial)						
1	Site Clearing	UEOT	67 700 00	60,000,00	1.00	600.400	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	4.00 4.00	\$36,400 \$3,781,775	
	Site Demonition	TILOT	\$000,000.00	\$943,443.00	4.00	\$3,761,773	\$3,818,1
2	Earthwork						\$0,0.0,1.
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
3	Paving & Surfacing- excluded						
4	Piped Utilities- excluded						
5	Site Structural Work						
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,3
6	Track work						
	Direct Fixation	M	\$800.23	\$945.72		\$0	
	Turnouts, No. 50 W. Conc. Ties	EA	\$365,000.00	\$431,358.68		\$0	
	Crossover, No. 50 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4	\$3,545,414	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing	1	1				\$3,545,4
-	Station Electrical Work	1					\$3,545,4
- /	CCTV & Security System- excluded	+	 				
	Communication System-excluded	+	1				
	Lighting- See Item 10	+					
8	Traction Power						
	(Included in Overall Estimate)						
9	Train Control						
	(Included in Overall Estimate)						
10	Station Platform						
	Platforms:	014	470	*****	7.000	24 440 500	
	Foundation- Pier Caissons	SM SM	170 \$175.00	\$200.91 \$206.82	7,200 7,200	\$1,446,529 \$1,489,074	
	Pier Caps Platform Slab	SM	\$175.00	\$206.82 \$141.82	7,200	\$1,469,074	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded		\$250.00	\$200.10	000	\$200,001	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing	—		67.040.000.			
	Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
							\$20,760,
11	Station Building & Access to Platforms						
	Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
	-						\$3,913,0
	Sub-Total						\$171,790,0
	Mobilization & Indirect Field Cost		15%				\$25,768,
	Subtotal- Construction Cost- Base (year 2006 dollars)	1	1				\$197,558,
	Escalation to Midpoint of Construction- not included	1	ļ				
	Right of way Acquisition	+	1				640.200
	Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	+	-				\$49,389, \$246,948 ,
	Project Conceptual & Preliminary Engineering	+	-				\$ 240,948 ,
	Final Engineering Design Cost	+	1				
	Construction Management & Inspection Costs @ 10%	+	1				
	Field Changed Condition	+	1				
	Owner Administration & Engineering	+	+				
	Program Implementation Costs (25.5% of Total Cost & Procurement)		1				\$50,377,4
	Total Estimated Project Cost	1	1				\$297,325,

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S32 - Pleasanton (I-680/Bernal) Station (UPRR 3-4, Suburban - At Grade)						
1	Site Clearing	UEOT	AT 700 00	40.000.00	4.00	000 100	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	4.00 4.00	\$36,400 \$3,781,775	
	Site Demoillion	HECT	\$600,000.00	\$945,445.00	4.00	\$3,761,775	\$3,818,174
2	Earthwork						\$3,010,174
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	150,000.00	\$1,329,530	
				,		, ,,	\$1,329,530
3	Paving & Surfacing- excluded						
							\$0
4	Piped Utilities- excluded						
							\$0
5	Site Structural Work						Ģ(
	At grade					\$0	
							\$0
6	Track work						
	Ballasted Track Incl. Ballast and subballast	M	\$430.00	\$508.18		\$0	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22		\$0	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing	 					\$7.000.000
7	Station Electrical Work						\$7,090,828
- 1	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							\$0
	Traction Power						
	(Included in Overall Estimate)						
							\$0
9	Train Control						
	(Included in Overall Estimate)						\$0
10	Station Platform						\$0
10	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting	SM SM	\$160.00 \$130.00	\$189.09 \$153.63	7,200 7,200	\$1,361,439 \$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02			
	Platform Furnishing	platform			2		
		piatiorm	\$45,000.00	\$53,181.21	2	\$11,818 \$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$45,000.00 \$20,000.00				
	Pedestiran Crossing	EA		\$53,181.21 \$23,636.09	2 8	\$106,362 \$189,089	
	Pedestiran Crossing Overcrossing	EA EA		\$53,181.21 \$23,636.09 \$7,942,000.00	2	\$106,362 \$189,089 \$7,942,000	
	Pedestiran Crossing	EA		\$53,181.21 \$23,636.09	2 8	\$106,362 \$189,089	
	Pedestiran Crossing Overcrossing	EA EA		\$53,181.21 \$23,636.09 \$7,942,000.00	2 8	\$106,362 \$189,089 \$7,942,000	647.900.079
	Pedestiran Crossing Overcrossing	EA EA		\$53,181.21 \$23,636.09 \$7,942,000.00	2 8	\$106,362 \$189,089 \$7,942,000	\$17,802,978
11	Pedestiran Crossing Overcrossing Undercrossing	EA EA		\$53,181.21 \$23,636.09 \$7,942,000.00	2 8	\$106,362 \$189,089 \$7,942,000	\$17,802,978
11	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms	EA EA		\$53,181.21 \$23,636.09 \$7,942,000.00	2 8	\$106,362 \$189,089 \$7,942,000 \$0	\$17,802,978
	Pedestiran Crossing Overcrossing Undercrossing	EA EA EA	\$20,000.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8	\$106,362 \$189,089 \$7,942,000	\$17,802,978
	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	EA EA EA SM	\$20,000.00 \$540.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,967
	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,967 \$33,580,000
	Pedestran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	EA EA EA SM	\$20,000.00 \$540.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,967 \$33,580,000 \$5,037,000
	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,967 \$33,580,000 \$5,037,000
	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,967 \$33,580,000 \$5,037,000
	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,967 \$33,580,000 \$5,037,000 \$38,617,000
	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost)	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,965 \$33,580,000 \$5,037,000 \$38,617,000
	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,965 \$33,580,000 \$5,037,000 \$38,617,000
	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2005 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,965 \$33,580,000 \$5,037,000 \$38,617,000
	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,965 \$33,580,000 \$5,037,000 \$38,617,000
	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2005 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,965 \$33,580,000 \$5,037,000 \$38,617,000
	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal-Construction Cost-Base (year 2006 dollars) Escalation to Midpoint of Construction-not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal-Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,967 \$33,580,000 \$5,037,000 \$38,617,000 \$9,654,250 \$48,271,250
	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2005 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	EA EA EA SM	\$20,000.00 \$20,000.00 \$3,200.00	\$53,181.21 \$23,636.09 \$7,942,000.00 \$10,900,000.00	2 8 1 1 5,539	\$106,362 \$189,089 \$7,942,000 \$0 \$3,534,848	\$3,534,967 \$3,534,967 \$33,580,000 \$5,037,000 \$38,617,000 \$9,654,250 \$48,271,250

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S33 - Livermore 1 (I-580) Station (I-680/580/UPRR 3-4, Undeveloped - Aerial)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	-	\$0	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	-	\$0	\$
2	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
	•						\$
3	Paving & Surfacing- excluded						
	Blood Hillians control of						\$
4	Piped Utilities- excluded						
							\$
5	Site Structural Work						•
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	4.00	\$43,000,000	
							\$43,000,00
6	Track work						
	Direct Fixation	М	\$800.23	\$945.72		\$0	
	Turnouts, No. 50 W. Conc. Ties	EA	\$365,000.00	\$431,358.68		\$0	
	Crossover, No. 50 w. Conc. Ties	EΑ	\$750,000.00	\$886,353.45	4		
	Bumping Posts Heavy Duty Rubber Grade Crossing	EA	\$50,000.00	\$59,090.23		\$0	
	Ticary Duty Napoci Grade Glossing	1				1	\$3,545,41
7	Station Electrical Work						93,343,41
	CCTV & Security System- excluded		1			1	
	Communication System-excluded					İ	
	Lighting- See Item 10						
							\$
8	Traction Power						
	(Included in Overall Estimate)						
0	Train Control						\$
9	Train Control (Included in Overall Estimate)						
	(modece in Overall Edunate)						\$
10	Station Platform						*
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	10,800	\$2,042,158	
	Station Lighting	SM	\$130.00	\$153.63	10,800	\$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$17,727	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	12	\$283,633	
	Pedestiran Crossing	ļ		AT		ļ	
	Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
		1				1	\$26,046,00
							Ψ£0,040,00
11	Station Building & Access to Platforms		1			1	
	Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
	·						\$3,913,02
	Sub-Total		45			ļ	\$76,500,00
	Mobilization & Indirect Field Cost		15%				\$11,475,00
	Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	 				 	\$87,975,00
	Right of way Acquisition	1				1	
	Contingencies (25% of Total Construction Cost)	1					\$21,993,75
	Subtotal- Construction Cost (Not Escalated)						\$109,968,75
	Project Conceptual & Preliminary Engineering		İ	İ		İ	, , ,
	Final Engineering Design Cost						
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition					ļ	
	Owner Administration & Engineering						\$22,433,62
	Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$132,402,37

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

tem No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
-1	S34 - Livermore 2 (Downtown) Station (UPRR 5-6, Urban - At Grade)						
	Site Clearing Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	
	Site Defilolition	TILOT	\$000,000.00	9545,445.00	4.00	93,761,773	\$3,818,17
2	Earthwork	-					\$3,010,17
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	150,000.00	\$1,329,530	
	Grading Site- Cut & Fill Tivi Average	IVIO	\$1.50	Φ0.00	150,000.00	\$1,329,530	\$1,329,53
2	Deviler 0 Confering analysis						\$1,525,50
3	Paving & Surfacing- excluded						
	Physical Halladora, annotational and						,
4	Piped Utilities- excluded						
							:
	Site Structural Work						
	At grade						
							:
	Track work						
	Ballasted Track Incl. Ballast and subballast	M	\$430.00			\$0	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22		\$0	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$7,090,82
7	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
8	Traction Power						
	(Included in Overall Estimate)						
9	Train Control						
	(Included in Overall Estimate)						
	(•
10	Station Platform						`
10	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00		7,200	\$1,489,074	
	Platform Slab	SM	\$120.00		7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00		800	\$236,361	
	Platform Finish Work- excluded	IVI	\$250.00	\$295.45	800	\$230,301	
		CM	6340.00	¢404.04	7 200	\$2.002.0E0	
	Canopy- Str. Steel	SM SM	\$340.00		7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00 \$130.00	\$189.09 \$153.63	7,200 7,200	\$1,361,439 \$1,106,169	
	Station Lighting						
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing			67.040.000.00		67.040.000	
	Overcrossing	EA	.	\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA		\$10,900,000.00		\$0	
			.			ļ	
							\$17,802,9
			ļ				
11	Station Building & Access to Platforms						
	Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
							\$3,913,0
	Sub-Total						\$33,950,0
	Mobilization & Indirect Field Cost		15%				\$5,092,5
	Subtotal- Construction Cost- Base (year 2006 dollars)						\$39,042,5
	Escalation to Midpoint of Construction- not included						
	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$9,760,6
	Subtotal- Construction Cost (Not Escalated)						\$48,803,1
	Project Conceptual & Preliminary Engineering						
	Final Engineering Design Cost						
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition						
_	Owner Administration & Engineering		†				
							\$9,955,8
-	Program Implementation Costs (25.5% of Total Cost & Procurement)						
	Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$58,758,9

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

DATE: 3/1/2007

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S35 - Livermore 2 (Downtown) Station (UPRR 5-6, Urban - Aerial)						
1	Site Clearing	UECT	¢7 700 00	en 000 00	2.00	649.200	
	Site Clearing Site Demolition	HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	2.00	\$18,200 \$1,890,887	
	OIL DOMORIUM	TILOT	ψ000,000.00	ψ0+0,++0.00	2.00	\$1,050,007	\$1,909,08
2	Earthwork						* 1,222,22
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$
3	Paving & Surfacing- excluded						
							S
- 1	Piped Utilities- excluded						•
	Fiped Officies- excluded						
							\$
5	Site Structural Work						·
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	
							\$139,748,39
	Track work						
	Direct Fixation	M	\$430.00	\$508.18		\$0	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22		\$0	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00 \$50,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts Heavy Duty Rubber Grade Crossing	EA	\$50,000,000	\$59,090.23		\$0	
	Treaty Say Trassed Grade Grossing	1	-				\$7,090,82
7	Station Electrical Work						ψ1,030,02
- '	CCTV & Security System- excluded		1				
	Communication System-excluded						
	Lighting- See Item 10						
							\$
8	Traction Power						
	(Included in Overall Estimate)						
							\$
9	Train Control						
	(Included in Overall Estimate)						\$
10	Station Platform						ð
10	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded					\$0	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM SM	\$160.00 \$130.00	\$189.09 \$153.63	7,200	\$1,361,439 \$1,106,169	
	Station Lighting Signage	platform	\$5,000.00	\$5,909.02	7,200	\$1,106,169	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing		,	, ,,,,,,,,,		, , ,	
	Overcrossing	EA		\$7,942,000.00		\$0	
	Undercrossing	EA		\$10,900,000.00	1	\$10,900,000	
							\$20,760,97
	Otation Pullillian O. Account to Platforms						
11	Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Passenger Terminal (Station Category III) Ticketing (Enclosed)	SM	\$540.00 \$3,200.00	\$638.17 \$3,781.77	5,539	\$3,534,848 \$378,177	
	rising (Endocod)	JIVI	φυ,200.00	φ3,701.77	100	ψ370,177	\$3,913,02
	Sub-Total Sub-Total						\$173,420,00
	Mobilization & Indirect Field Cost		15%				\$26,013,00
	Subtotal- Construction Cost- Base (year 2006 dollars)		İ				\$199,433,0
	Escalation to Midpoint of Construction- not included						
	Right of way Acquisition						
	Contingencies (25% of Total Construction Cost)						\$49,858,25
	Subtotal- Construction Cost (Not Escalated)	 					\$249,291,2
	Project Conceptual & Preliminary Engineering	<u> </u>					
	Final Engineering Design Cost Construction Management & Inspection Costs @ 10%	 					
	Construction Management & Inspection Costs @ 10% Field Changed Condition						
	Owner Administration & Engineering	1					
		+		-		l	\$50,855,41
	Program Implementation Costs (25.5% of Total Cost & Procurement)						
	Program Implementation Costs (25.5% of Total Cost & Procurement) Total Estimated Project Cost						\$300,146,66

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

				1	1		
Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	C2(1' (C 'H. D // 500) C4'. // (200/500/UDDD 4.5. U / / / / /		,	,			
1	S36 - Livermore (Greenville Road/I-580) Station (I-680/580/UPRR 4-5, Undeveloped - Aerial) Site Clearing						
	Site Clearing Site Clearing	HECT	\$7,700.00	\$9,099.90		\$0	
	Site Demolition	HECT	\$800,000.00	\$945,443.68		\$0	
			****	70.0,		**	\$(
2	Earthwork						
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
							\$0
4	Piped Utilities- excluded						
	Olds Odminatural Manth						\$0
5	Site Structural Work Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	4.00	\$50,817,598	
	Aeriai Structure	HECT	\$10,750,000.00	\$12,704,399.40	4.00	\$50,617,596	\$50,817,598
6	Track work						\$50,617,550
	Direct Fixation	М	\$800.23	\$945.72		\$0	
	Turnouts, No. 50 W. Conc. Ties	EA	\$365,000.00	\$431,358.68		\$0	
	Crossover, No. 50 w. Conc. Ties	EA	\$750,000.00	\$886,353.45	4	\$3,545,414	
	Bumping Posts	EA	\$50,000.00	\$59,090.23	·	\$0	
	Heavy Duty Rubber Grade Crossing					, .	
							\$3,545,414
	Station Electrical Work						
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							\$0
8	Traction Power						
	(Included in Overall Estimate)						\$0
0	Train Control						\$0
	(Included in Overall Estimate)		+				
	(moduced in Overall Estimate)						\$0
10	Station Platform						***
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	10,800	\$2,169,793	
	Pier Caps	SM	\$175.00	\$206.82	10,800	\$2,233,611	
	Platform Slab	SM	\$120.00	\$141.82	10,800	\$1,531,619	
	Platform Warning Edge & Rubbing Edge	М	\$250.00	\$295.45	2,400	\$709,083	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	10,800	\$4,339,586	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc. Station Lighting	SM SM	\$160.00 \$130.00	\$189.09 \$153.63	10,800 10,800	\$2,042,158 \$1,659,254	
	Signage	platform	\$5,000.00	\$5,909.02	3	\$1,039,234	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	3	\$159,544	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	12	\$283,633	
	Pedestiran Crossing		\$20,000.00			\$200,000	
	Overcrossing	EA	İ	\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA		\$10,900,000.00		\$0	
							\$23,088,008
	-						
11	Station Building & Access to Platforms						
	Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	60.040.000
	Cub T-t-1						\$3,913,026
	Sub-Total Mobilization & Indirect Field Cost		15%				\$81,360,000
	Subtotal- Construction Cost- Base (year 2006 dollars)		1376				\$12,204,000 \$93,564,000
	Escalation to Midpoint of Construction not included		-				\$30,004,000
	Right of way Acquisition		 				
	Contingencies (25% of Total Construction Cost)						\$23,391,000
	Subtotal- Construction Cost (Not Escalated)		1				\$116,955,000
	Project Conceptual & Preliminary Engineering		1				, , , ,
	Final Engineering Design Cost		İ				
	Construction Management & Inspection Costs @ 10%						
	Field Changed Condition						
	Owner Administration & Engineering						
	Program Implementation Costs (25.5% of Total Cost & Procurement)						\$23,858,820
	Total Estimated Project Cost						\$140,813,820

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S37 - Livermore (Greenville Road/UPRR) Station						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	4.00	\$36,400	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	4.00	\$3,781,775	\$3,818,17
2	Earthwork						\$3,818,17
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	150,000.00	\$1,329,530	
							\$1,329,53
3	Paving & Surfacing- excluded						
4	Piped Utilities- excluded						
-	Fiped offittes- excluded						
							:
5	Site Structural Work						
	At grade					\$0	
	<u></u>						
б	Track work Ballasted Track Incl. Ballast and subballast	М	\$430.00	\$508.18		\$0	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00			\$0	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4		
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
		4					\$7,090,82
7	Station Electrical Work	_					
	CCTV & Security System- excluded Communication System-excluded	+					
	Lighting- See Item 10						
8	Traction Power						
	(Included in Overall Estimate)						
							:
9	Train Control (Included in Overall Estimate)						
	(Included in Overall Estimate)	_					
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab Platform Warning Edge & Rubbing Edge	SM M	\$120.00 \$250.00	\$141.82 \$295.45	7,200 800	\$1,021,079 \$236,361	
	Platform Finish Work- excluded	IVI	\$250.00	\$295.45	800	\$230,301	
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing Windscreen Shelter- 4 ea. Per Platform	platform	\$45,000.00 \$20,000.00	\$53,181.21 \$23,636.09	2	\$106,362 \$189,089	
	Pedestiran Crossing	EA	\$20,000.00	\$23,636.09		\$109,009	
	Overcrossing	EA		\$7,942,000.00	1	\$7,942,000	
	Undercrossing	EA		\$10,900,000.00		\$0	
							\$17,802,9
	Ota-tion Pullidian O Assess to Dieticons						
11	Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$038.17	100	\$3,534,848 \$118	
	•••		72,223.00	ŢIO		Ţ.10	\$3,534,9
	Sub-Total Sub-Total	1					\$33,580,0
	Mobilization & Indirect Field Cost		15%				\$5,037,0
	Subtotal- Construction Cost- Base (year 2006 dollars)						\$38,617,0
	Escalation to Midpoint of Construction- not included	1					
	Right of way Acquisition Contingencies (25% of Total Construction Cost)	+	1				\$9,654,2
	Subtotal- Construction Cost (Not Escalated)	+					\$48,271,2
		+					¥-10,2. 1,2
	Project Conceptual & Preliminary Engineering		•	i			
	Project Conceptual & Preliminary Engineering Final Engineering Design Cost						
	Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10%						
	Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						
	Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering						e0 047 0
	Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition						\$9,847,3 \$58,118,5

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S38 - Tracy 1 (Downtown) Station (UPRR 10-11, Urban - Aerial)						
1	Site Clearing	UEOT	AT 700 00	***	0.00	240.000	
	Site Clearing Site Demolition	HECT HECT	\$7,700.00 \$800,000.00	\$9,099.90 \$945,443.68	2.00 2.00	\$18,200 \$1,890,887	
	OIL DEMORROR	IILOI	ψ000,000.00	ψ545,445.00	2.00	\$1,030,007	\$1,909,08
2	Earthwork						, , , , , , , ,
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$
3	Paving & Surfacing- excluded						
							\$
4	Piped Utilities- excluded						
							\$
	Site Structural Work	LIFOT	640 750 000 00	640 704 000 40	11.00	6400 740 004	
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	\$139,748,39
6	Track work						\$100,140,00
	Direct Fixation	M	\$430.00	\$508.18		\$0	
	Turnouts, No. 32.7 W. Conc. Ties	EA	\$700,000.00	\$827,263.22		\$0	
	Crossover, No. 32.7 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4	\$7,090,828	
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing	1	-			-	\$7,090,82
7	Station Electrical Work						\$1,030,02
- 1	CCTV & Security System- excluded	1	1				
	Communication System-excluded						
	Lighting- See Item 10						
	Torodon Donos						\$
8	Traction Power (Included in Overall Estimate)						
	(moladed in Overali Estimate)						\$
9	Train Control						
	(Included in Overall Estimate)						
							\$1
10	Station Platform						
	Platforms: Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded	CNA	6040.00	0404.04	7.000	60 000 050	
	Canopy- Str. Steel Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM SM	\$340.00 \$160.00	\$401.81 \$189.09	7,200 7,200	\$2,893,058 \$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform	EA	\$20,000.00	\$23,636.09	8	\$189,089	
	Pedestiran Crossing Overcrossing	EA	1	\$7,942,000.00		\$0	
	Undercrossing	EA	-	\$10,900,000.00	1	\$10,900,000	
							\$20,760,97
4.0	Ctation Building 9 Access to Blotforms	ļ					
11	Station Building & Access to Platforms Passenger Terminal (Station Category III)	SM	\$540.00	\$638.17	5,539	\$3,534,848	
	Ticketing (Enclosed)	SM	\$3,200.00	\$3,781.77	100	\$378,177	
							\$3,913,02
	Sub-Total	[\$173,420,00
	Mobilization & Indirect Field Cost		15%				\$26,013,00
	Subtotal- Construction Cost- Base (year 2006 dollars)	 	-				\$199,433,00
	Escalation to Midpoint of Construction- not included Right of way Acquisition	}	-				
	Contingencies (25% of Total Construction Cost)	1					\$49,858,25
	Subtotal- Construction Cost (Not Escalated)						\$249,291,25
	Project Conceptual & Preliminary Engineering						
		1					
	Final Engineering Design Cost						
	Construction Management & Inspection Costs @ 10%						
	Construction Management & Inspection Costs @ 10% Field Changed Condition						
	Construction Management & Inspection Costs @ 10%						\$50,855,41

PARSONS BRINCKERHOFF

PROJECT: California High Speed Train EIR/EIS

Intermediate Stations (Local Services)

CONCEPTUAL CONSTRUCTION COST ESTIMATE

Item No.	DESCRIPTION	UNIT	UNIT COST (June 2003\$)	UNIT COST (November 2006\$)	QUANTITY	Estimated Cost	Category Total Cost
	S39 - Tracy 2 (Existing ACE) Station (SUPRR 2-3, Suburban - Aerial)						
1	Site Clearing						
	Site Clearing	HECT	\$7,700.00	\$9,099.90	2.00	\$18,200	
	Site Demolition	HECT	\$800,000.00	\$945,443.68	2.00	\$1,890,887	44 000 000
							\$1,909,087
2	Earthwork		A7.50	20.00			
	Grading Site- Cut & Fill 1M Average	M3	\$7.50	\$8.86	-	\$0	
							\$0
3	Paving & Surfacing- excluded						
	B. 110000						\$0
4	Piped Utilities- excluded						
							\$0
							ş(
5	Site Structural Work	UEOT	040 750 000 00	010 701 000 10	44.00	0400 740 004	
	Aerial Structure	HECT	\$10,750,000.00	\$12,704,399.46	11.00	\$139,748,394	A400 = 40 00
							\$139,748,394
	Track work						
	Direct Fixation	M	\$430.00	\$508.18		\$0	
	Turnouts, No. 50 W. Conc. Ties	EA	\$700,000.00	\$827,263.22		\$0	
	Crossover, No. 50 w. Conc. Ties	EA	\$1,500,000.00	\$1,772,706.90	4		
	Bumping Posts	EA	\$50,000.00	\$59,090.23		\$0	
	Heavy Duty Rubber Grade Crossing						
							\$7,090,828
7	Station Electrical Work		ļ				
	CCTV & Security System- excluded						
	Communication System-excluded						
	Lighting- See Item 10						
							\$0
	Traction Power						
	(Included in Overall Estimate)						
							\$0
9	Train Control						
	(Included in Overall Estimate)						
							\$0
10	Station Platform						
	Platforms:						
	Foundation- Pier Caissons	SM	170	\$200.91	7,200	\$1,446,529	
	Pier Caps	SM	\$175.00	\$206.82	7,200	\$1,489,074	
	Platform Slab	SM	\$120.00	\$141.82	7,200	\$1,021,079	
	Platform Warning Edge & Rubbing Edge	M	\$250.00	\$295.45	800	\$236,361	
	Platform Finish Work- excluded						
	Canopy- Str. Steel	SM	\$340.00	\$401.81	7,200	\$2,893,058	
	Canopy Roof Metal Deck, Roofing, Gutter, Etc.	SM	\$160.00	\$189.09	7,200	\$1,361,439	
	Station Lighting	SM	\$130.00	\$153.63	7,200	\$1,106,169	
	Signage	platform	\$5,000.00	\$5,909.02	2	\$11,818	
	Platform Furnishing	platform	\$45,000.00	\$53,181.21	2	\$106,362	
	Windscreen Shelter- 4 ea. Per Platform					\$189,089	· · · · · · · · · · · · · · · · · · ·
		EA	\$20,000.00	\$23,636.09	8	\$105,005	
	Pedestiran Crossing		\$20,000.00		8		
	Pedestiran Crossing Overcrossing	EA	\$20,000.00	\$7,942,000.00		\$0	
	Pedestiran Crossing		\$20,000.00		1	\$0	
	Pedestiran Crossing Overcrossing	EA	\$20,000.00	\$7,942,000.00		\$0	
	Pedestiran Crossing Overcrossing	EA	\$20,000.00	\$7,942,000.00		\$0	\$20,760,978
	Pedestiran Crossing Overcrossing Undercrossing	EA	\$20,000.00	\$7,942,000.00		\$0	\$20,760,978
11	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms	EA EA		\$7,942,000.00 \$10,900,000.00	1	\$0 \$10,900,000	\$20,760,978
11	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III)	EA EA	\$540.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$20,760,978
11	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms	EA EA		\$7,942,000.00 \$10,900,000.00	1	\$0 \$10,900,000	
11	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed)	EA EA	\$540.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026
11	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026 \$173,420,000
11	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost	EA EA	\$540.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026 \$173,420,000 \$26,013,000
11	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars)	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026 \$173,420,000
111	Pedestiran Crossing Overcrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026 \$173,420,000 \$26,013,000
11	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal - Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026 \$173,420,000 \$26,013,000 \$199,433,000
11	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingences (25% of Total Construction Cost)	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026 \$173,420,000 \$26,013,000 \$199,433,000
111	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated)	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
111	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
111	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Besign Cost	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
111	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs (10%	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
111	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,022 \$173,420,000 \$26,013,000 \$199,433,000
111	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition Owner Administration & Engineering	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026 \$173,420,001 \$26,013,001 \$199,433,000 \$49,858,255 \$249,291,256
11	Pedestiran Crossing Overcrossing Undercrossing Undercrossing Station Building & Access to Platforms Passenger Terminal (Station Category III) Ticketing (Enclosed) Sub-Total Mobilization & Indirect Field Cost Subtotal- Construction Cost- Base (year 2006 dollars) Escalation to Midpoint of Construction- not included Right of way Acquisition Contingencies (25% of Total Construction Cost) Subtotal- Construction Cost (Not Escalated) Project Conceptual & Preliminary Engineering Final Engineering Design Cost Construction Management & Inspection Costs @ 10% Field Changed Condition	EA EA	\$540.00 \$3,200.00	\$7,942,000.00 \$10,900,000.00 \$638.17	5,539	\$0 \$10,900,000 \$3,534,848	\$3,913,026 \$173,420,000 \$26,013,000 \$199,433,000